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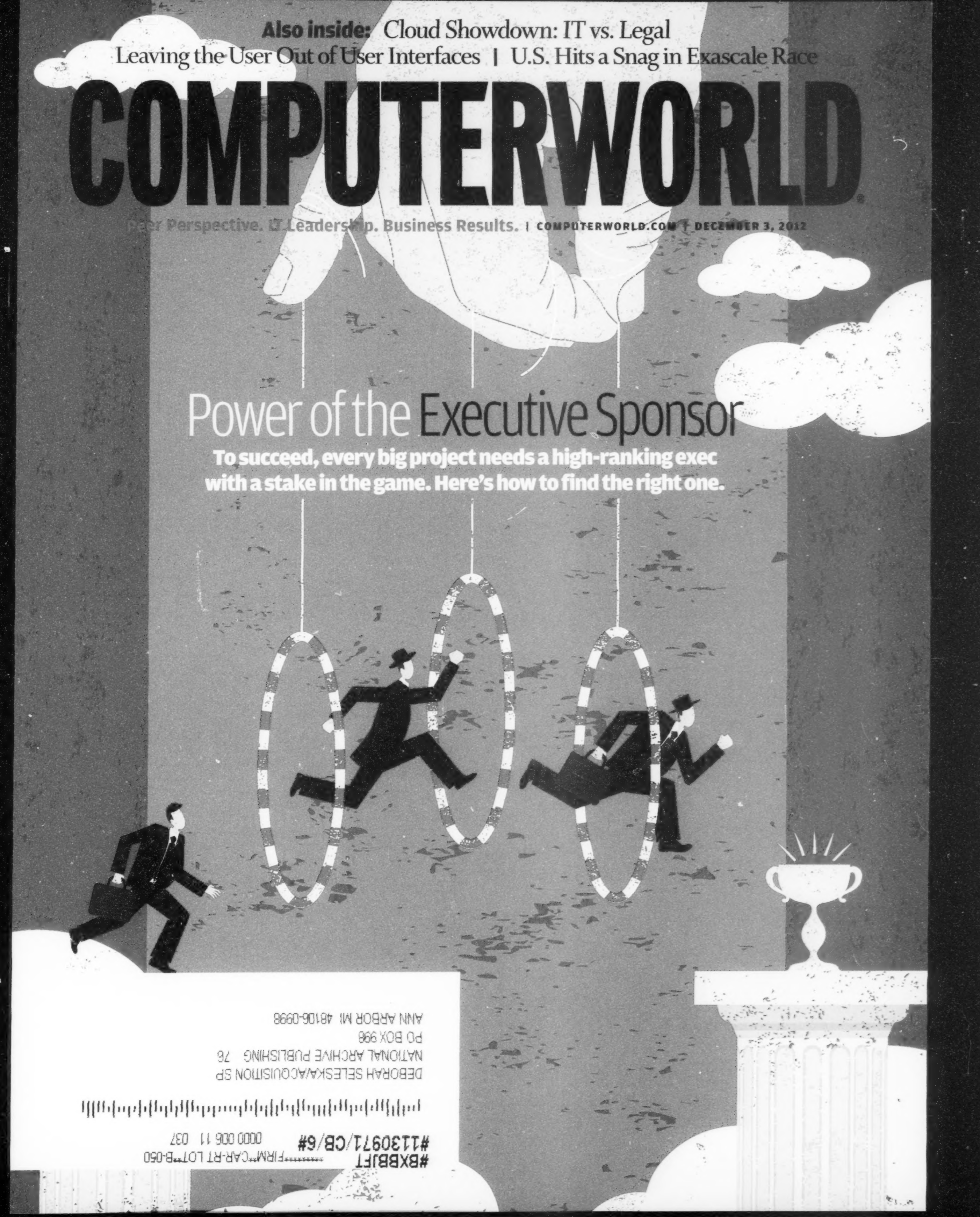
Power of the Executive Sponsor

To succeed, every big project needs a high-ranking exec with a stake in the game. Here's how to find the right one.



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Roy Cahn-Speyer

HP PRODUCT MARKETING MANAGER FOR THE AMERICAS, HEWLETT-PACKARD CO.

Roy Cahn-Speyer manages HP's BladeSystem enclosure and two-socket server business for the Americas. He is responsible for product launches, market development, and transition planning.

Future-Proof your IT with Smarter Servers

What will the typical two-socket server look like in five years?

The industry is trending toward a server with 64 cores, 4TB to 8TB of memory and two 100Gbit network ports. We think it will be capable of hosting 300 to 500 virtual machines.

That sounds like a very large server. But what would happen if it were to crash?

Not a pretty picture. That's why at HP, we've started three multiyear projects to address the server of the future. *Project Moonshot* leverages hundreds of low-power processors, like the ones in cell phones, each running its own copy of Linux for applications like Web hosting or Hadoop. *Project Odyssey* aims to improve server reliability and fault tolerance by adapting technology from our NonStop and Business Critical Systems Group to Windows and Linux. And *Project Voyager,* which adds intelligence to our servers, helping to increase uptime, automate server management and reduce the need for staff intervention. In fact, the HP ProLiant Gen8 blade, tower and rack-mount servers, launched in March, are the first deliverables of Project Voyager.

When you're counting on a server farm to power your business, you want a smarter server with intelligence close to the application.

How do these smarter servers powered by AMD Opteron™ 6200 Series processors meet the business needs of CIOs today?

IT managers need to increase server uptime, simplify server management and decrease total cost of ownership. These goals are met by the ProLiant Gen8 servers, which feature a new version of the HP's Integrated Lights-Out processor (iLO 4) iLO 4 delivers a complete set of intelligent, automated management features for self-analysis and healing, from initial deployment to daily management, service alerting and remote support. On the performance and value side, AMD Opteron 6200 Series processors offer the industry's highest core density and the exceptional price/performance that AMD is known for.

Can you explain how iLO 4 delivers a smarter and more automated server?

iLO 4 is like a computer inside each ProLiant Gen8 server. It is connected to all server subsystems and has a 4GB flash memory. iLO 4 enables agentless phone home functionality, which makes remote management painless. HP will even help you manage your servers via our free cloud-based Insight Online portal hosted on hp.com. In addition, the new Active Health System continually monitors and logs 1600 parameters to the 4GB flash memory so even the trickiest problems can be root-caused up to five times faster. We also made initial deployment easier by eliminating the need for CDs. Drivers and firmware needed to install an operating system are now embedded in iLO 4. When it comes time to update firmware and drivers, HP offers the free Smart Update application that automatically sequences every step in the correct order and requires a maximum of one reboot, which takes the risk out of firmware and driver updates.

How is the performance running compute-intensive workloads?

The AMD Opteron 6200 Series processors deliver a major boost in price/performance. Available with 4-, 8-, 12- or 16-core AMD processors, the ProLiant Gen 8 servers feature the highest core density. Twice the cores per server lets you host virtual machines with a dedicated core for each VM. It also lets you serve more database users and solve more complex HPC problems. The Gen8 server design with AMD Opteron 6200 Series processors balances flexibility, expandability and energy efficiency.

What advice would you offer CIOs looking to future-proof their server infrastructure? When you're counting on a server farm to power your business, you want a smarter server with intelligence close to the application. This will enable you to automate manual operations, lower operating costs and increase uptime. Moving in this direction is a journey. We believe the ProLiant Gen8 server with AMD is an excellent place to start.

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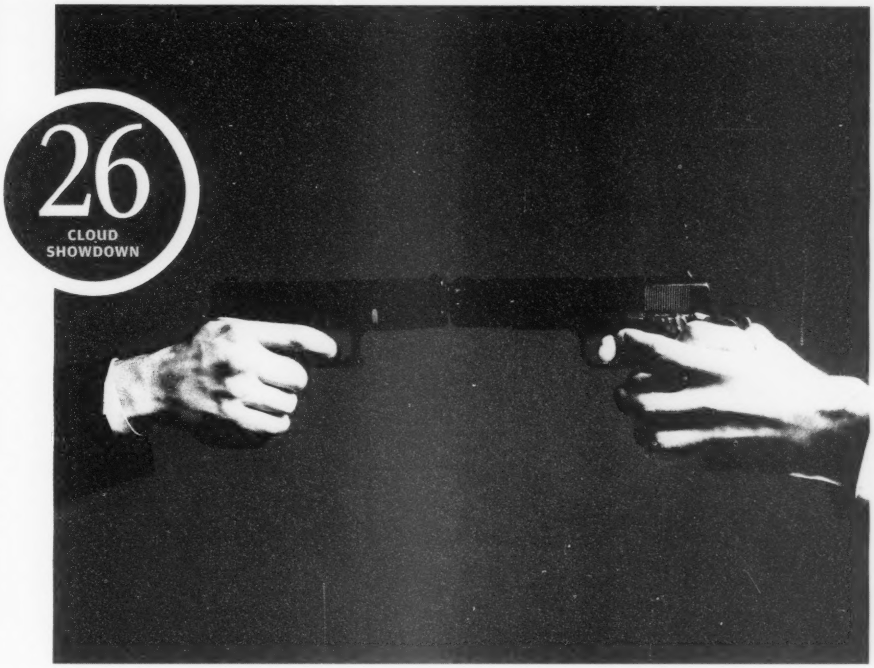

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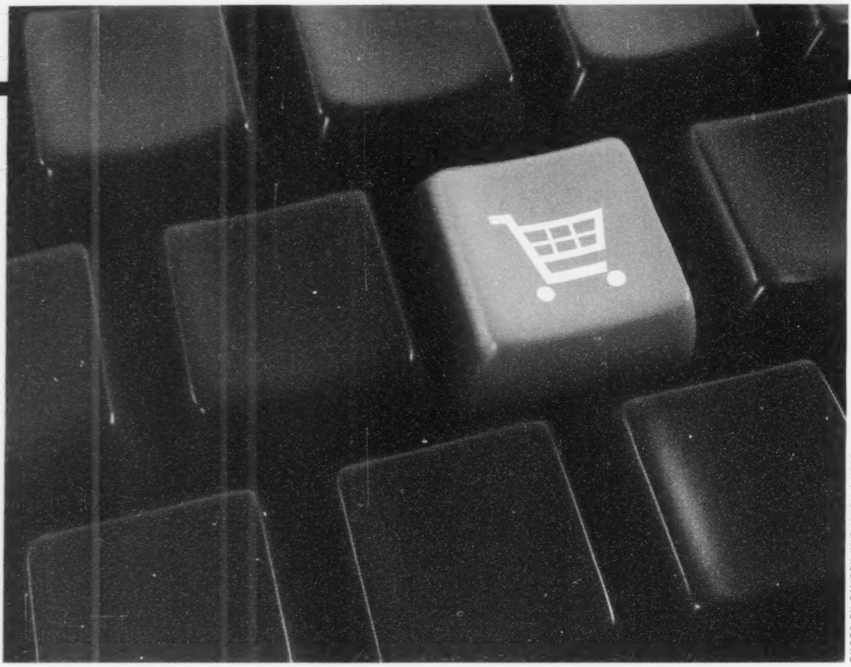

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E-COMMERCE

Don't Be a Scrooge With At-Work Shoppers

NOW THAT Black Friday is behind us and the holiday gift-buying season is under way, IT managers should be prepared for users doing a fair amount of that shopping at work.

The widespread adoption of bring-your-own-device policies means that at-work shopping is all but a done deal. Because many people are using their own smartphones and tablets for work, they are feeling freer to check off items on their holiday shopping lists during the workday. Some may figure they can do what they want on their own devices.

"If it's my laptop and I'm at work and I'm having a coffee break, I'm going to get my shopping done," said Jim Melvin, president and CEO of AppNeta, a provider of services for monitoring system performance. "We're seeing more of this blending of work and home life."

The issue, though, is not that workers are using their own devices, but that they're using the company network to access their favorite retail sites — and often, they're shopping on company time, not during their coffee breaks.

But Ezra Gottheil, an analyst at Technology Business Research, suggests it's not something IT managers should spend a lot of time on. "I don't think it is worth worrying about," he said. "The potential for abuse is much smaller than other things, like social networking or even pornography."

The flip side of the BYOD movement is that many people now do work on their personal time, said Gottheil, so it's not really fair to refuse to let people spend a bit of work time on personal errands. "It's seasonal," he said. "Why be a Scrooge?"

– Sharon Gaudin

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OPERATING SYSTEMS

PC Vendors Curb Expectations for Windows 8 Sales

Computer sellers have scaled back their expectations of the sales pop they'll get from Windows 8 this year, an analyst said recently.

Brian White of Topeka Capital Markets said that his checks of Asian computer manufacturers – the relatively unknown companies that build desktops and notebooks for the likes of Hewlett-Packard and Dell – found that orders from PC vendors climbed just 2% from September to October, less than half the average 5% monthly increase of the past seven years.

That figure is weaker than his firm's initial estimate "and speaks to the continued challenges in the PC market," White said.

PC sellers had hoped that the release of Windows 8 would kick-start sales, but "the Windows 8 ramp is much lower than expected a few months ago," White said. He explained that the difference is due partly to macro-economic weaknesses and partly to the fact that tablets are eating into PC sales.

Paul Thurrott, a Windows blogger and book author, recently reported that unnamed sources within Microsoft had said that Windows 8 sales have been below company projections. However, other Microsoft watchers have cautioned that it's too early to conclude that sales of Windows 8, and its associated hardware, are sluggish.

– GREGG KEIZER

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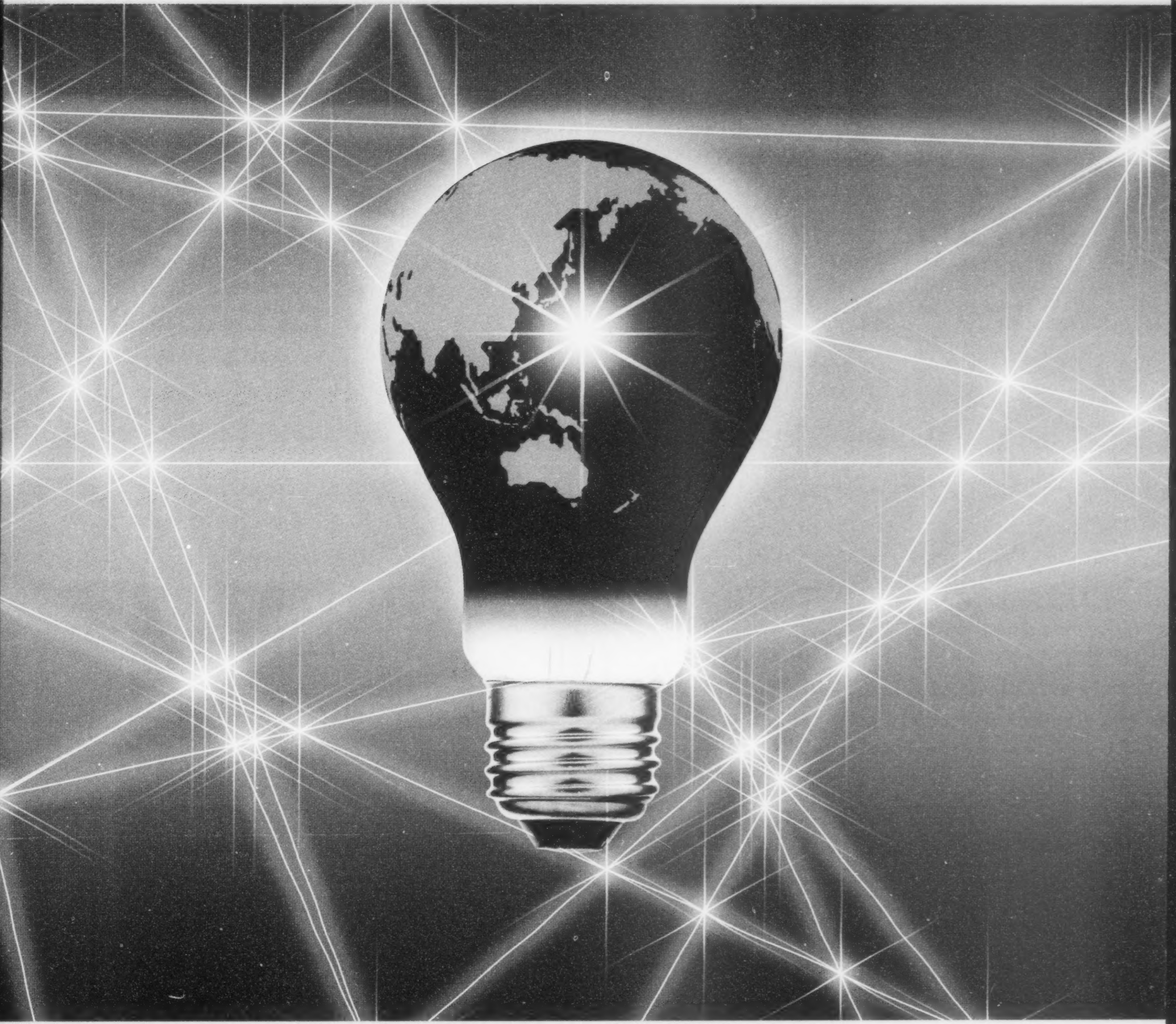

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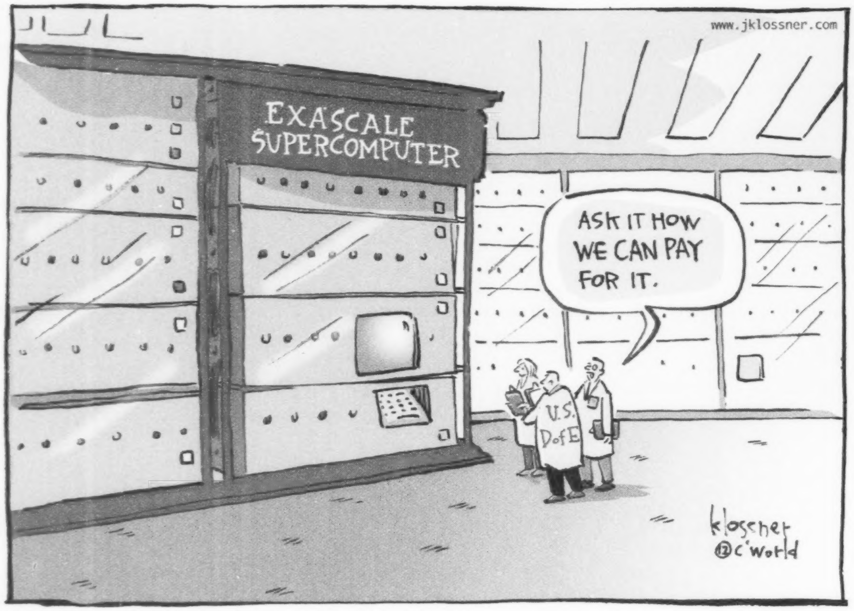
BETWEEN THE LINES

By John Klossner



ONLINE PRIVACY

Petraeus Affair Reveals Risks of Email

THE SCANDAL that caused the resignation of Gen. David Petraeus, one of the country's most decorated military professionals, has a lot of observers wondering: If the head of the CIA can't figure out how to keep his emails private, do the rest of us even stand a chance?

In a word, no — or at least not without some real planning. "If you're just a normal person sending email, then it's pretty easy to trace," said Keith Jones, a computer forensic investigator. Every server an email hits en route to its destination "puts a little identifying line in there," Jones explains. "It's like a chain of custody, showing who had the email."

Petraeus had reportedly used a pseudonym to set up multiple email accounts that he used to send his mistress messages, including some on Gmail. One was a shared account that the two used to communicate via messages that they left in a drafts folder but never actually sent.

The idea was that if they left emails in the drafts folder — known as an electronic drop box — the messages wouldn't leave a trail and would be difficult for anyone to find.

There are ways to hide the e-bread-crumb trail, Jones said. For example, an anonymizer, also known as an anonymous proxy, can hide the sender's identifying information by accessing the Internet on the sender's behalf. It's akin to enlisting someone to deliver an envelope for you, Jones explained.

But most people — whether they're sending memos about corporate marketing plans or messages to mistresses — don't think about using such techniques.

"Most individuals and businesses don't think twice about sending private or confidential information over email," said Patrick Moorhead, an analyst at Moor Insights & Strategy. "For work email, assume someone is reading your email, as someone or something probably is."

– Sharon Gaudin

Micro Burst

OPERATING SYSTEMS

Microsoft says
it has sold
40 million
WINDOWS 8 LICENSES
since the OS launched
a month ago.

SOURCE: MICROSOFT

ONLINE SECURITY

Cybersecurity Bill Fails to Gain Senate Support

The U.S. Senate will not move forward on a cybersecurity bill.

The Senate voted 51-47 to end debate and move to a final vote on the Cybersecurity Act, but 60 votes were needed to advance the bill. The Senate had also failed to move forward on the bill in an August vote.

BSA, an industry trade group, called on lawmakers to give cybersecurity legislation a high priority in 2013. "There is no getting around the fact that we need to bolster America's cybersecurity capabilities," BSA president and CEO Robert Holleyman said in a statement. "The stalemate doesn't make the issue go away."

Critics of the bill have said it would give too much power to the Department of Homeland Security, which would be authorized to set cybersecurity standards, with the help of private companies.

Other senators say the bill raises privacy concerns because it would allow businesses and government agencies to spy on customers without a warrant.

The bill also offers incentives to companies that voluntarily adopt cybersecurity programs. Carrots include protection from lawsuits related to cyber incidents.

– GRANT GROSS,
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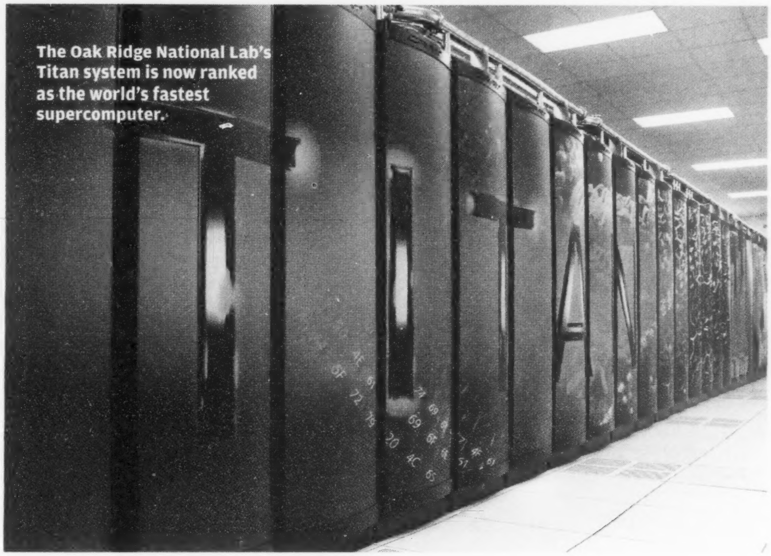


The Oak Ridge National Lab's Titan system is now ranked as the world's fastest supercomputer.

U.S. Hits Snag in Exascale Race

Budget woes could blunt U.S. efforts to build an exascale supercomputer and give China an opening to beat the DOE's new 2022 target. By Patrick Thibodeau

BUDGET WOES are forcing the U.S. Department of Energy to extend by two to four years its target for finishing work on an exascale system, increasing the chance that the Chinese will get there first.

At last month's SC12 supercomputer conference, the new timeline projecting delivery of a DOE exascale system between 2020 and 2022 was outlined by William Harrod, advanced scientific computing research division director in the Department of Energy's Office of Science.

The new projection assumes that Congress will fund the project in the federal government's fiscal 2014 budget, he added.

To date, the DOE's exascale development effort has received limited funding — nowhere near the billions of dollars likely needed — despite a consensus among scientists that the next generation of supercomputers could help deliver research breakthroughs, improve U.S. competitiveness and deepen understanding of huge problems like climate change.

> "The biggest problem [for U.S. exascale development] **is the budget.** Until I have a budget, I really don't know what I'm doing."
>
> — WILLIAM HARROD, DIVISION DIRECTOR, U.S. DEPARTMENT OF ENERGY OFFICE OF SCIENCE

Based in part on predictable increases in computing power, experts had previously expected that a working DOE exascale system would be ready by 2018.

The U.S. today remains far and away the world leader in high-performance computing (HPC). On the latest Top500 list of the most powerful supercomputers, 250 of the systems were built by U.S.-based tech firms.

But there's no guarantee that the U.S. will be the first to deliver an exascale system; China, Europe and Japan are all working hard on exascale initiatives.

China, in particular, has been investing heavily in HPC systems and related microprocessor and interconnect technologies.

Depei Qian, a professor at Beihang University and director of the Sino-German Joint Software Institute, told an audience at the SC12 conference that he expects China to remain three to five years behind the U.S. in the HPC race. But analysts are skeptical of that assessment. "The Chinese are being very polite — their goal is to build [an exascale system] first," said IDC analyst Earl Joseph.

"The biggest problem [for U.S. exascale development] is the budget," said Harrod. "Until I have a budget, I really don't know what I'm doing."

Harrod previewed the DOE's "Exascale Computing Initiative" report, which calls for building prototype systems by 2018. The report is set to be presented to Congress in February.

The challenge to HPC developers around the world is clear.

Today's fastest computer, according to the Top500 list released last month, is a Cray XK7 supercomputer capable of running at up to 17.59 petaflops, meaning it can process 17.59 quadrillion calculations per second. That system, known as Titan, is installed at the DOE's Oak Ridge National Laboratory in Oak Ridge, Tenn.

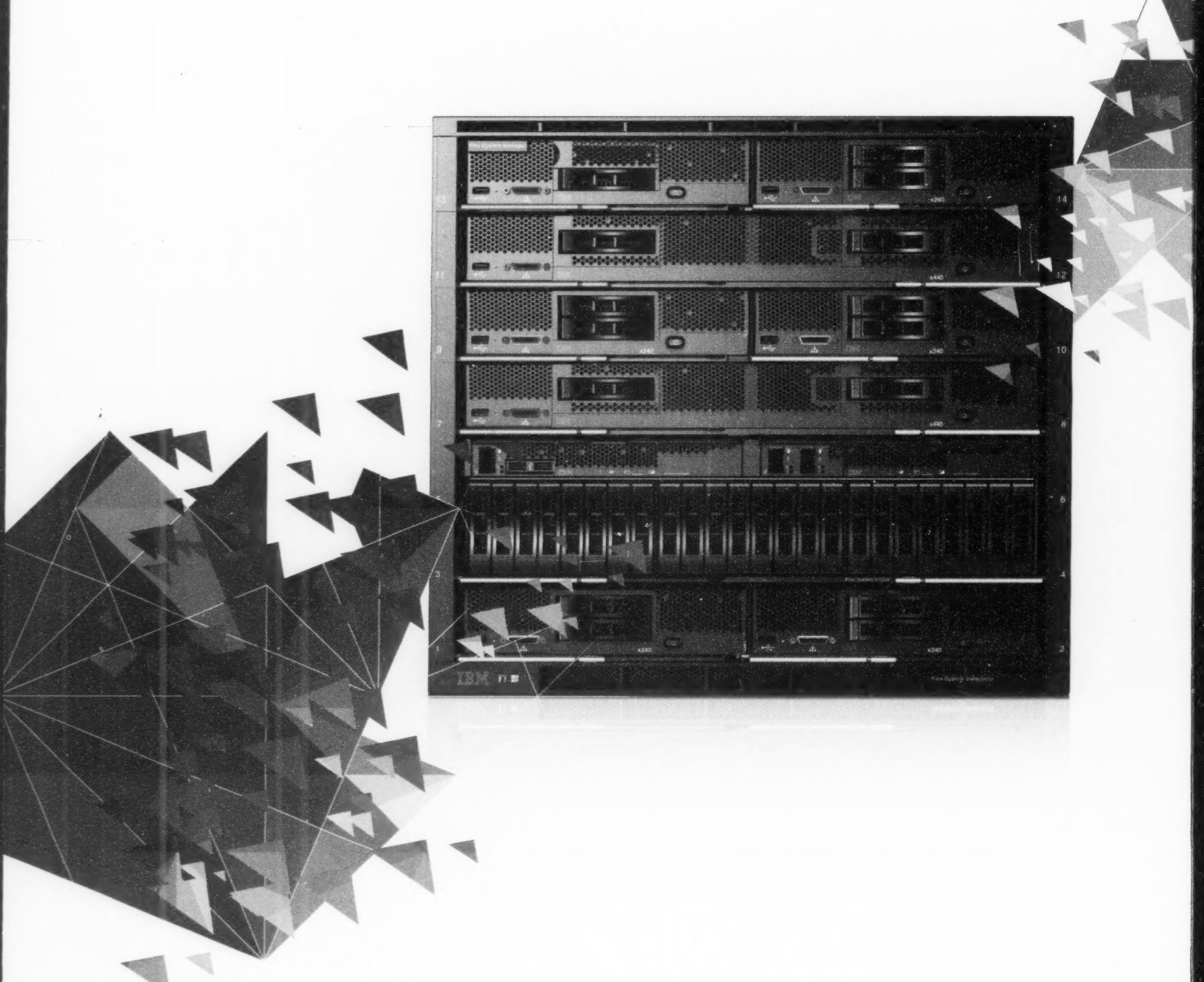
The petaflop milestone was passed in 2008, when IBM's Roadrunner began operating at the Los Alamos National Laboratory.

An exascale supercomputer would be 1,000 times more powerful than the petaflop systems being deployed today. Developing such a system requires new programming models and new methods of managing data and memory, along with improved system resiliency.

It may be the biggest HPC challenge yet, and will likely require international collaboration. "There is no way to achieve these goals by any one government, one country," said Harrod. "It far exceeds what people are going to invest and also exceeds the technical talent."

He noted that HPC researchers are cooperating internationally in various ways, including working together to develop exascale systems software. ◆

OAK RIDGE NATIONAL LABORATORY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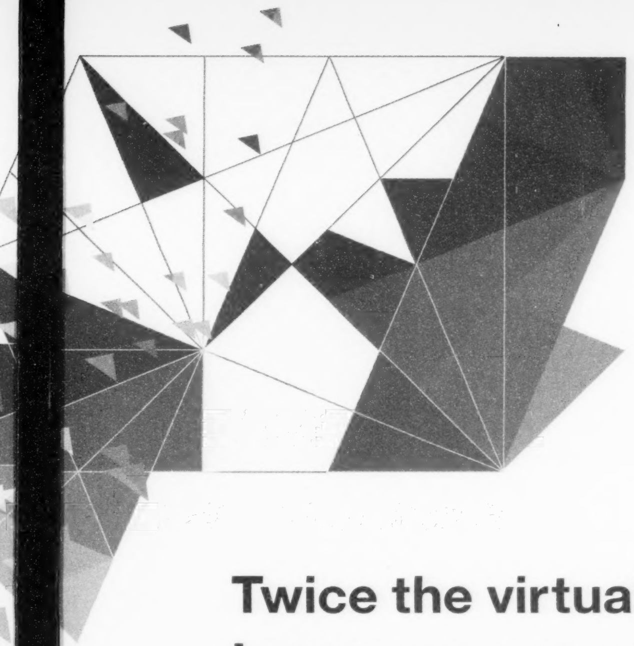

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[1] Based on IBM testing and documented in IBM System x® Virtualization Server Consolidation sizing methodology. IBM Flex System x240 supports 2.7X more Peak Utilization Virtual Machines (VMs) than previous generation BladeCenter® HS22V.

[2] Based on IDC white paper "The Economics of Virtualization: Moving Toward an Application-Based Cost Model," Michelle Bailey, November 2009, http://www.vmware.com/files/pdf/Virtualization-application-based-cost-model-WP-EN.pdf

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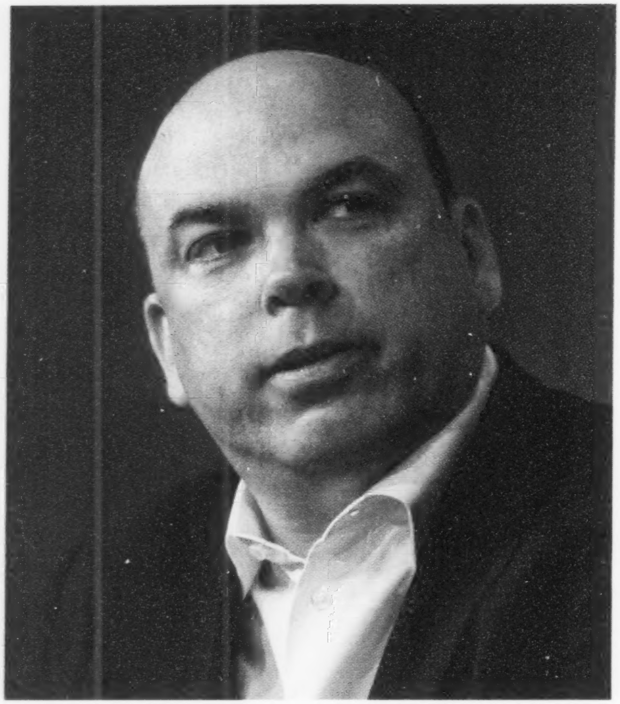

Autonomy founder Mike Lynch says he "utterly rejects" all allegations of accounting improprieties on the part of his company.

HP's Woes Persist With Deal Gone Bad

A key acquisition turns sour as HP and Autonomy's founder face off over allegations of accounting fraud. By Chris Kanaracus

HEWLETT-PACKARD SAYS it will aggressively seek recompense for alleged fraud on the part of U.K. software vendor Autonomy, which HP acquired in a $10.3 billion deal last year. HP said accounting improprieties by Autonomy were to blame for the bulk of an $8.8 billion fourth-quarter write-down it took last month.

The allegations prompted an intense exchange of charges and countercharges between HP officials and Autonomy founder and former CEO Mike Lynch. Lynch proclaimed his innocence in an open letter to the HP board last week, and HP quickly returned fire.

Declaring that he "utterly rejects all allegations of impropriety," Lynch said, "It was shocking that HP put non-specific but highly damaging allegations into the public domain without prior notification or contact with me."

Lynch also challenged HP to explain how it determined that the alleged fraud accounted for more than $5 billion of the write-down.

HP, meanwhile, said that it had shared the allegations with the U.K. Serious Fraud Office, the U.S. Department of Justice and the Securities and Exchange Commission's Enforcement Division. "We will defer to them as to how they wish to engage with Dr. Lynch," the company said.

HP also said it "will take legal action against the parties at the appropriate time."

The acquisition, completed in October 2011, was roundly panned by critics who believed HP paid too much for the vendor of enterprise data management, search and archiving software. HP now acknowledges that Autonomy was overvalued, but it blames the alleged accounting fraud for its inability to accurately assess the company's worth.

Facing tough competition in the server and PC markets, HP had hoped the high profit margins and steady maintenance revenue associated with Autonomy's software products could give its balance sheet a quick boost.

Some HP officials touted the move as a signature accomplishment of then-HP CEO Leo Apotheker, whose brief and tumultuous tenure ended a month before the deal closed.

Apotheker says he was "stunned and disappointed" to learn of Autonomy's alleged wrongdoing.

"This will take a long time to work through, but we're committed to seeking redress," current HP CEO Meg Whitman said. "I'm expecting this is going to be a multiyear journey through the courts."

"The two people who should have been held responsible are gone," she said, referring to Apotheker and former HP Chief Strategy Officer Shane Robison. But now, she added, "I feel good about the stability of leadership" at HP.

Whitman said that the HP board approved the deal based on Autonomy financial documents that had been audited by accounting firm Deloitte. "In the end, you have to rely on audited financials, and we did," she said.

Tony Byrne, an analyst at the Real Story Group, said HP could have avoided the mess by talking to Autonomy customers prior to the deal. If HP had made an effort to meet Autonomy users, he said, "they would have found unusually disgruntled customers — even by enterprise standards."

Byrne also noted that some Autonomy technology is old and in need of an overhaul. "It was HP's very difficult job when they acquired it to make a big R&D push and turn a lot of these platforms around," he said. "I think they hesitated a little, and this is another pretty big dent in things." ◆

> "In the end, you have to rely on audited financials, **and we did."**
>
> —MEG WHITMAN, CEO, HEWLETT-PACKARD

Kanaracus *is a reporter for the IDG News Service.*

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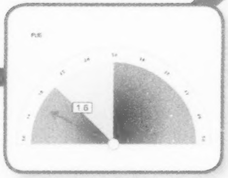

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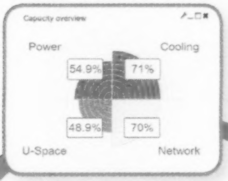

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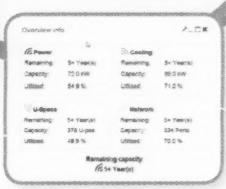
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Power		Cooling	
Remaining:	5+ Year(s)	Remaining:	5+ Year(s)
Capacity:	72.0 kW	Capacity:	99.0 kW
Utilized:	54.9 %	Utilized:	71.0 %
U-Space		**Network**	
Remaining:	5+ Year(s)	Remaining:	5+ Year(s)
Capacity:	378 U-pos	Capacity:	334 Ports
Utilized:	48.9 %	Utilized:	70.0 %

Remaining capacity
5+ Year(s)

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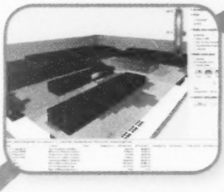

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THE Grill

Pradip Sitaram

This CIO tackled an IT modernization project that tested his diplomacy skills.

Is there something not many people know about you? I'm a trained architect. I used to build buildings for a living before I became a software engineer. There are lots of commonalities between those two fields.

What's your favorite mobile app? Flipboard

If you weren't in IT you'd be . . . an architect.

What's your favorite pastime? International travel with my family.

And your favorite guilty pleasure? Sugar. And more sugar. It should be one of the five major food groups.

What book is on your nightstand? *Drive: The Surprising Truth About What Motivates Us*, by Daniel Pink

PHOTOS COURTESY OF ENTERPRISE BUSINESS PARTNERS

IN THE TWO YEARS *since he joined Enterprise Business Partners, CIO Pradip Sitaram has helped the affordable housing and community development organization modernize its IT infrastructure, move to the cloud and transform IT into a proactive, problem-solving organization that serves a family of five businesses. Here, Sitaram talks about the cultural and technical challenges of making that transition.*

What's unique about IT at your organization? We manage $12 billion in assets, including 1,700 properties. We have relationships with investors, building owners, building managers and their representatives, and we exchange data, including financial reports, which we have to review. Most of that was manual and time-consuming. We would bring in an army of consultants each quarter to load and analyze the influx of documents. But thanks to a new IT modernization initiative, we've been able to increase efficiency and, in large part, eliminate the need for temporary staff and consultants.

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> **The IT people really learned the business** because they spent hours a day with the business people.

How did you do that? In the past, these folks would send the reports as an email attachment. We had people who would download the email attachments, decrypt them and load the data. So we built a Salesforce.com portal that our partners use to submit the reports we need. We have automated processes that take the file, parse the data and load it into our legacy systems. We're using Boomi for that.

When we first proposed the portal, there was a lot of skepticism. We had to encourage and cajole and say, let's try this. The business set a stretch goal of 50% to 60% compliance within six months, meaning that more than half of the 1,000 CPA firms giving us reports would choose the new mechanism. Within a few weeks, compliance was at 98%. It's 100% now.

So you automated the loading of those reports. Did you automate processing as well? Once financial reports came in, there was a lot of asset management financial analysis involved. So we built an analytics dashboard in QlikView. We are saving one hour per quarter, per property. For 1,700 properties, that's 6,800 hours we're saving with one dashboard. The potential for more savings is exciting.

What were some of the other challenges the business faced? Our asset management systems were built in a traditional .Net environment 10 or 12 years ago. When I arrived in June 2010, there was a proposal on the table to modernize using Silverlight and SharePoint and things like that. Phase 1 would have taken $750,000 and nine months to do — and that was for just one asset management application. To modernize everything would have taken three to five years and would have cost several million dollars.

How did the development process change when you moved from .Net to Salesforce.com? I introduced agile methodology to the staff and to the business. Business users see results in days or weeks because we integrate development teams and we have weekly cycles. The goal is no IT project should have a deliverable longer than 90 days.

Some things are in the cloud and some things are still on-premises. How do you keep everything integrated? As applications go into the cloud, they need to integrate back with our data center and the legacy applications, which is where Boomi comes in. We needed three layers of integration: cloud-to-premises, cloud-to-cloud and premises-to-premises. That was the glueware, the facilitator for our journey into the cloud.

All of that was part of a broad IT modernization effort. What was wrong with the overall architecture? It had to be rebuilt because there was what seemed to be a lack of vision and architecture to the existing IT landscape. Systems had just evolved and happened over time. A lot of companies are like that; we're not unique.

How hard was it to change the culture to enable this cloud-based, agile paradigm? Within IT, it was a big paradigm shift, and it was not accepted by everyone. A lot of the more traditional developers did not like it. Some left, and we hired new people who understood this new philosophy.

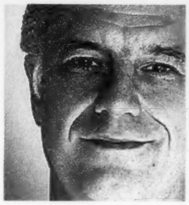
I worked with executives to get them to understand that a lot of the problems we're trying to solve are not just IT problems — they are business problems. IT is just the facilitator. Then I went to my counterparts and said I need you to release a few people and I need time — several hours a day for a few weeks. That was a big commitment they had to make. Once I got the staff trained in agile and they saw how we were working together in tightly integrated teams, two things happened. One was that the IT people really learned the business because they spent hours a day with the business people. Then the business started to see results very quickly. Success breeds confidence on both sides, and that's what happened.

What qualities did you look for in the new developers you hired? I look for an almost insatiable thirst to help people. I want people who behave as problem-solvers and consultants to the business.

None of this would have been possible without the teams I have had. [The focus is often] on the technology, but it's really the people that create the success. And on the business side, we have built wonderful relationships. Without their support and time commitment — which was outside their "day jobs," I might add — much of this wouldn't have been possible.

– *Interview by* **Robert L. Mitchell**

OPINION



BART PERKINS

Don't Forget the Field

TOO FREQUENTLY, IT systems are designed at headquarters, by headquarters and for headquarters. When the perspective is that narrow, the systems that result probably won't fit the needs of most of the organization.

Headquarters staffers often belittle the importance of functions located elsewhere.

Headquarters staffers often belittle the importance of functions located elsewhere, and they just as often have things backwards. Sure, headquarters usually provides critical direction and structure, but without the field, very few businesses could deliver products and services to customers. That's true of retailers, oil refiners, manufacturers, and even companies like Google and nonprofits.

There's a lack of respect behind such behavior, an egocentricity that can lessen the effectiveness of new systems. How many project teams complete the majority of project designs at headquarters and visit the field merely to give the *appearance* of soliciting input (or worse yet, only for the rollout)? One project manager recently admitted to me that his team was soliciting input from a particular field location only for political reasons. This is not uncommon, but it's a huge mistake that contributes to distrust between the field and headquarters.

A collaborative approach that involves the field in creating solutions to business challenges engages people and builds support for system rollouts. Include the field from the project's earliest phases, and integrate key opinion leaders from the field into the project team. Yes, this approach requires more time and resources, but it can help you avoid problems later on. Post-release disasters are far more costly than up-front planning. Even if the headquarters staff somehow manages to design a fine system in isolation, those in the field will be more resistant if their input was never sought. Few people readily embrace systems that are imposed on them, and pushback impacts rollout. Field support is invaluable.

Superficial outreach isn't enough. It can take extensive field involvement to identify local challenges. Few local conditions can be discovered during brief interviews, phone calls or Skype sessions. And headquarters-based interviewers rarely know enough about field operations to ask the right questions. For example, when a global organization recently decided to replace all field accounting systems with an ERP system, headquarters staff designed accounts payables to run monthly. But the folks at headquarters narrowly avoided running afoul of a Brazilian regulation that treats contractors who are paid monthly as employees (with benefits). In another case, a U.S. restaurant chain decided to implement a new management system using consumer PCs. Shortly before rollout, the project team finally spent time in a store and realized that it would take ruggedized PCs to survive the heat, grease and liquids that are unavoidable in a commercial kitchen.

Conversely, field staffers may be unaware of current industry products and trends and therefore aren't able to optimally define desired capabilities. The communication goes both ways.

Successful enterprise systems depend on widespread field acceptance. Products and services are delivered in the field, not at headquarters. As Colin Powell stated in *It Worked for Me*, "You've got to get out of your paneled rooms. Go downstairs and see what the hell is going on in the basement." Better yet, go out into the field and watch everyday business transactions. And do so before you design a system for field use. Treat the field well; it pays the bills. And its effectiveness can be the difference between profit and loss. ◆

Bart Perkins is managing partner at Louisville, Ky.-based Leverage Partners, which helps organizations invest well in IT. Contact him at BartPerkins@LeveragePartners.com.

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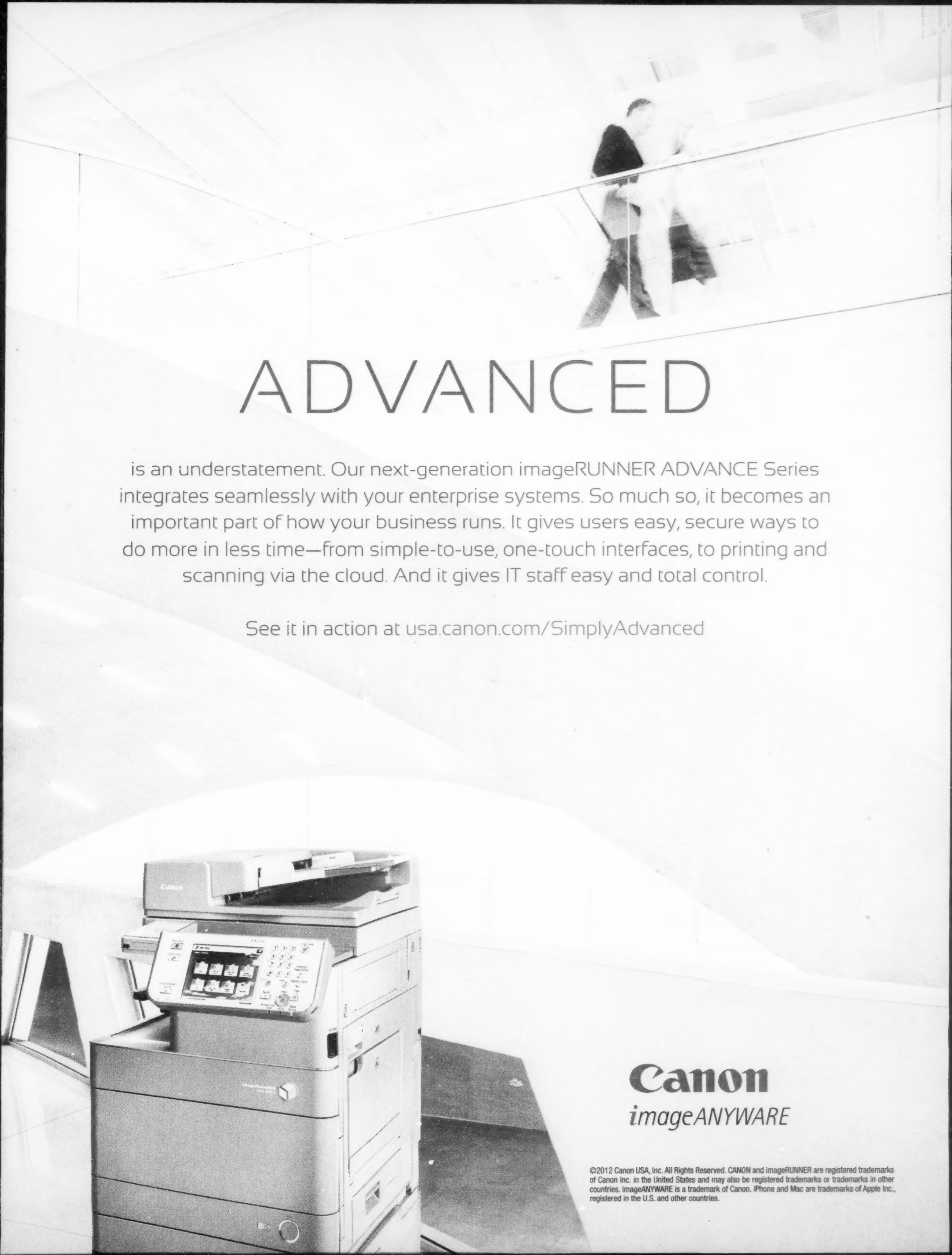

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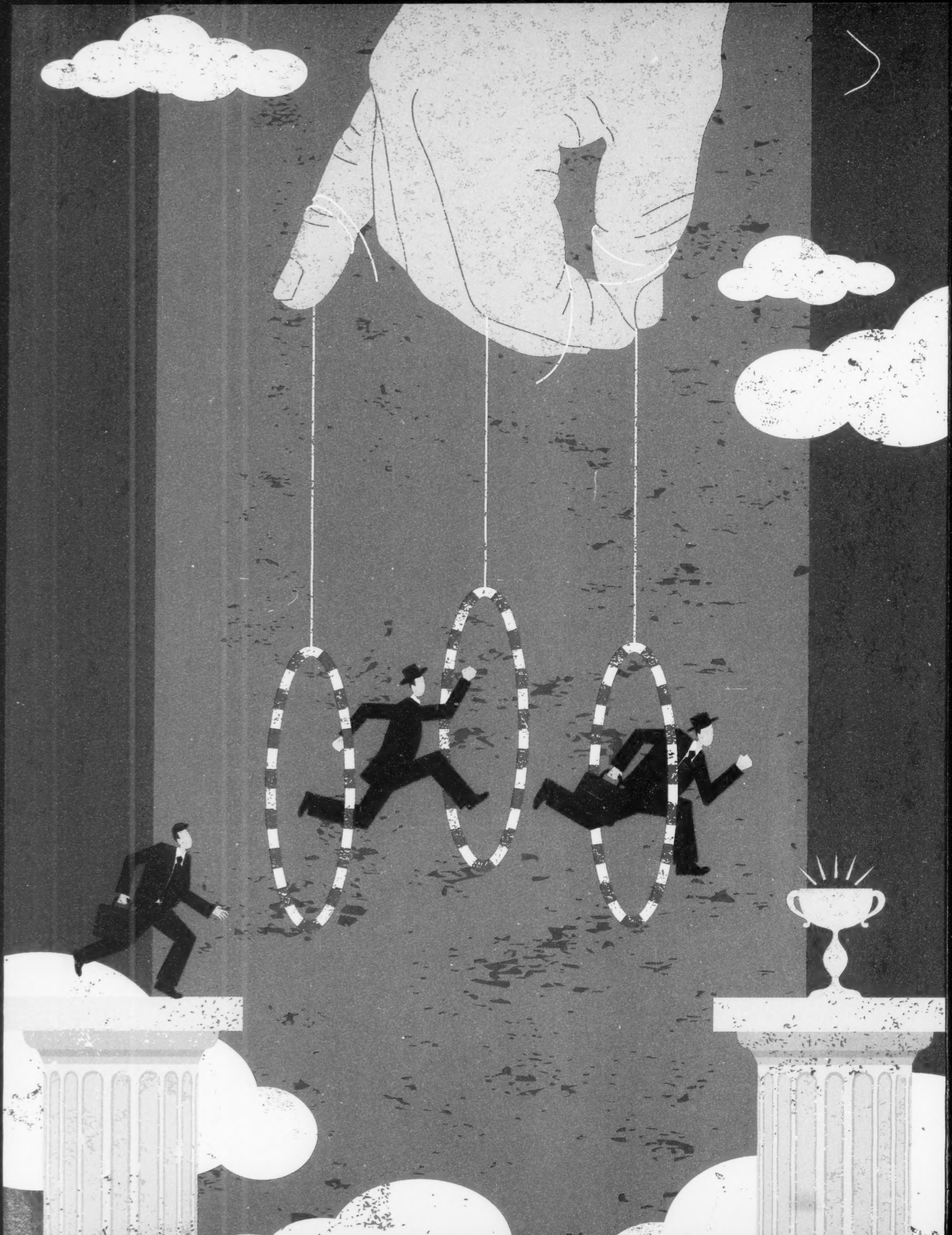


Every big project needs a high-ranking exec with a stake in the game and solid connections within the organization. Here's how to find and train the right one for the job.

BY MINDA ZETLIN

Power
of the Executive Sponsor

ABOUT FIVE YEARS AGO, the IT department at CH2M Hill set out to install a new piece of business software. An engineering company based in Englewood, Colo., with more than $5 billion in annual revenue, CH2M Hill has many lines of business, ranging from nuclear cleanup to waste water treatment to construction of clean rooms, each with its own technological needs and priorities. David Ladek, global IT business alliance partner at the company, knew it made most sense to deploy something equally useful for all. But getting the various lines of business to agree on specifications was a challenge.

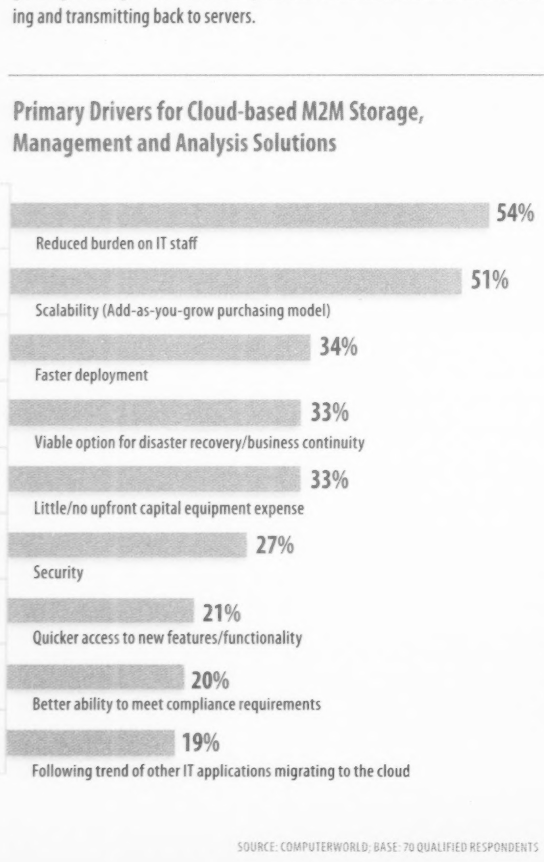
Ladek knew he needed someone with enough authority throughout the company to bring competing priorities together. Fortunately, there was organizationwide recognition that the software was necessary, and a president of one of the business units agreed to be the project's sponsor.

ZACK BLANTON ILLUSTRATIONS

M2M and Cloud: An Intersection for Innovation?

COMPANIES ARE BEGINNING to warm up to machine-to-machine (M2M) services as an efficient and effective way to collect and analyze data from a variety of wired and wireless systems across the enterprise. As IT departments deploy more M2M endpoints across their networks, however, they are coming to grips with a growing challenge: where to securely store all of the data these devices are collecting and transmitting back to servers.

Primary Drivers for Cloud-based M2M Storage, Management and Analysis Solutions



SOURCE: COMPUTERWORLD; BASE: 70 QUALIFIED RESPONDENTS

For now, the majority of this information (67%) is stored on-premises, according to a *Computerworld* survey of IT professionals deploying or evaluating M2M technology. But as storage requirements grow, more enterprises will look to the cloud as a repository for M2M data. Many respondents believe the combination of M2M communications and cloud-based storage will help them achieve strategic gains ranging from better governance to improved customer service.

"Ultimately, M2M and cloud may present a perfect intersection for business innovation," said Chris Gesell, director of enterprise cloud strategy at Verizon Communications. "The growth of interconnected devices is creating an explosion of new data. And the cloud, with its elasticity, is a perfect medium for managing, storing and analyzing this data."

Gesell said he expects companies to migrate more M2M data to the cloud as they become more experienced with cloud-based infrastructure and application services and gain more confidence in solutions that provide enterprise-class security.

IT leaders are already showing signs of increased confidence. Twenty-seven percent of survey respondents cited security as a primary driver of investments in cloud-based solutions for M2M data. Other key drivers include a reduced burden on !T staff, faster deployment, potential use for business continuity and reduced capital expenses.

Tactical Gains Lead to Business Innovation

As IT professionals take baby steps into cloud-based M2M, they are beginning to see the potential benefits of M2M data analytics. Survey respondents believe they are most likely to gain improved business processes or productivity and better real-time data analysis within the first six months of M2M deployments.

These initial gains could lead to more strategic business benefits, such as the ability to better address governance, risk and compliance concerns; the ability to quickly identify new business opportunities; improved business flexibility and resiliency; and a more rapid response to customer needs.

To read more about the results of the *Computerworld* survey, download our new report, "M2M and the Cloud: Businesses Proceed with Caution." www.computerworld.com/whitepapers/verizonm2mcloud

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CH2M Hill is a fairly non-hierarchical organization, and the sponsor couldn't force the other business units to cooperate, Ladek says. But the sponsor's passionate enthusiasm as well as his influence as a high-level executive drew all the required parties to the table. "He went back to our businesses and said, 'I want a senior person from each business group to sit on this committee with me,'" Ladek recalls. "Essentially, it became a steering committee made up of all the business groups with the right people to take what we were doing back to their users and bring us feedback. I don't think IT could have gotten them there by ourselves."

The project was a success. "We turned this into an enterprise initiative that became more than just the implementation of a software tool," Ladek says. Without the sponsor, things might have gone very differently. "There are plenty of examples in our industry of applications like this turning into shelfware," he notes.

We've had times when we looked at a project and didn't think we needed an executive sponsor. And I can tell you, that's part of why it failed.

DAVID LADEK, GLOBAL IT BUSINESS ALLIANCE PARTNER, CH2M HILL

Ladek himself has seen what can happen when IT tries to go it alone. "We've had times when we looked at a project and didn't think we needed an executive sponsor," he says. "And I can tell you, that's part of why it failed."

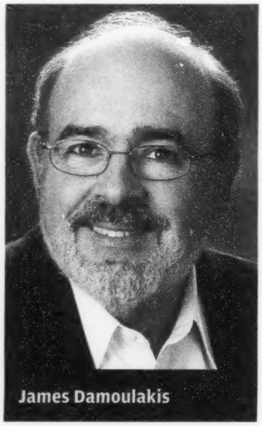
Experiences like these are why The Standish Group, whose Chaos reports offer regular updates on IT project success rates, says having an executive sponsor is the most important element in the success or failure of a project. "We used to say that user involvement was the No. 1 reason projects were successful," says Jim Johnson, chairman of The Standish Group. "We changed that this year to having the right executive sponsor, because it's such a critical role."

Only 37% of IT projects are successful, according to the July 2012 Chaos survey. Meanwhile, 42% went over budget, weren't completed on time or didn't deliver what they were supposed to deliver, and 21% failed altogether. Johnson says the projects that succeeded either had skilled executive sponsors or were "purely mechanical" undertakings that required no business-side buy-in.

Some projects are so small that they don't have a widespread effect, such as installing a wireless router in a new office. Others are part of the routine, such as replacing network components as part of ongoing — and already budgeted — maintenance plans. Projects like these may not need executive sponsors and may not be noticed by anyone outside of IT.

But for everything else, "I wouldn't do a project, even an IT infrastructure project, without an executive sponsor," says Peter Weis, CIO at Matson, a Honolulu-based shipping company with $1.6 billion in annual revenue. "It has to be someone outside of IT, and in general, the higher up the better."

Why can't a sponsor be a high-ranking IT executive? "IT doesn't fully own the business concerns," says Gary Heusner, client partner at Geneca, a custom software development company in Oakbrook Terrace, Ill. "If we were meant to be the chief marketing officer or chief operating officer, those are the jobs we would have."


James Damoulakis

Who Benefits?

How do you decide who makes the ideal executive sponsor for a given project? Start by considering who is likeliest to be affected by the project, but also who will benefit the most from it. The two will often be the same — but not always. "Let's say we're dealing with an efficiency initiative," says James Damoulakis, CTO at GlassHouse Technologies, an IT infrastructure consulting company based in Southborough, Mass. "One big area is growing data storage costs. IT is under the gun to address that and wants to apply different levels of storage for different kinds of data. There's no benefit to most business functions to say, 'Oh, my data is going to be on cheaper storage!' They may resist that, thinking, 'If it ain't broke, don't break it!' So you need a push from someone like the CFO to make sure everyone will comply."

You also need someone with excellent relationships throughout the company, not just in his own department. "You want someone who understands how things get done in the organization," says Tres Roeder, president of Cleveland-based Roeder Consulting and author of *A Sixth Sense for Project Management*. "Organizational politics, budgeting, process, procurement. The executive sponsor needs to help the project manager get this stuff done."

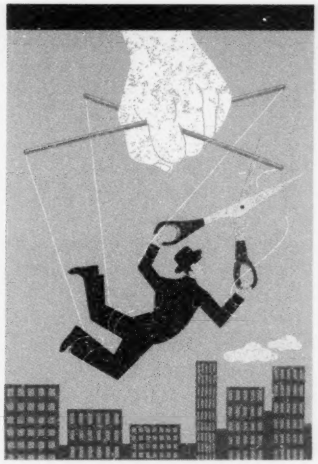
Next, he adds, you want someone experienced working on cross-functional projects. "The third thing — and I would rank it third — is subject-matter expertise on the project itself," says Roeder. "That's the easiest thing to find in other team members if your executive sponsor doesn't have it."

A sponsor's attitude is more important than his expertise and skills, experts agree. "Sponsors have to be thought leaders," Ladek says. "If you're implementing something, they have to be able to cause that part of the organization to want or need whatever you're talking about doing. They have to have passion."

Does the sponsor need a certain title to be effective? Some experts say yes, in order to command the attention and cooperation a project needs, especially one with far-reaching effects. Others disagree. "It's a big mistake to choose someone for his or her title," Ladek says. "Just because someone is the president or CEO or CFO doesn't make that person the right sponsor. Sometimes it's a person down a level who has the passion for the project, and may have the ear of the CEO. That person may be more valuable to the project, even with a general manager or director title."

At Matson, instead of one or the other, projects get both. "We have two different roles," Weis explains. "The executive sponsor has a certain set of roles and responsibilities, including making sure resources are available for the project and that it has political support, particularly if it is large and disruptive. The executive sponsor is a peer to me on the executive team."

Each project also gets a business unit



When **Good** Sponsorships Go **Bad**

WHEN an operations executive at Heartland Payment Systems set out to sponsor a software development project, there was trouble in the beginning. He made plans to hold a long series of meetings with the development team to map out every aspect of the new software. Once this planning work was done, he expected that the software team would go off and build the application and bring back a fully functional version for him to test.

There was only one problem: Heartland is an agile development shop. "He came in hoping and thinking it was going to be this great and wonderful plan and he would get one big sign-off, and then have a dedicated group of people working on it," says Kris Herrin, Heartland's CTO. "That didn't align with our culture in IT. The reality was, he was going to be using leveraged resources who would be hopping in and out of his project, as well as some dedicated resources." Working this way on multiple projects at once helps the Heartland team keep the development pipeline full, he adds.

The vast majority of executive sponsors are bad at this role, according to a recent Standish Group survey of CIOs. And those who have problems fall into one of two categories, according to Standish Chairman Jim Johnson. Some are what he calls "mother hens" – they hover over a project, wanting to manage every detail. Others are "deadbeat dads" – they agree to sponsor a project but then pay scant attention to it.

Given the pressures on most executives' schedules, the second scenario is more common, and it can be a huge problem. "This is why you need to be very explicit up front about the time commitment you're asking," says David Ladek, global IT business alliance partner at CH2M Hill. "Then you can at least say, 'We agreed to this. Will you be able to help me? And if not, do you mind if I engage somebody else?' You have to have the backbone to do that, and every good executive sponsor will respect it."

Many neglectful executive sponsors will gracefully step aside at this point. "But there are always ones who won't, and then you have to figure out what to do," Ladek says. "That's a big blow."

The mother-hen scenario can be even trickier. "You might want to make that person more busy doing stuff that will help the project," Johnson says. "A lot of projects can use a true evangelist, so making that person a spokesperson for the project might help." And he recommends creating a chain of command so that the mother hen doesn't need to make every decision – "just the critical ones."

Sometimes, the executive sponsor dislikes the project itself. "That may not be explicit," says project management consultant Tres Roeder. "They usually don't go into a meeting and say, 'I don't like this!' " So if your antennae are telling you a project's sponsor is resistant, make sure to explore why that might be and address any concerns he or she may have. "More often than not," says Roeder, "it's a reasonable concern." The project may be distracting the person's team, or it might negatively impact his part of the organization.

And then there are sponsors like the Heartland operations exec who simply don't understand what the job entails. For them – and for all executive sponsors – a little education can be a big help. For example, Herrin asked that executive to take a brief course in the agile methodology. The executive "learned what the different roles in agile do and what it means to groom a backlog," he says. "He actually got certified as a scrum project owner."

Thanks to the training, the executive sponsor changed his approach and the project was a huge success. "We built it, start to finish, in under 12 months," Herrin says. "We rolled it out for adoption and lots of users love it." And the operations exec has become an effective sponsor for other projects, he adds. "It took a little shift in mindset, but he's now a proponent of agile and of getting things done faster."

– MINDA ZETLIN

manager, usually assigned by the executive sponsor. "That's someone more functionally familiar with the project, often at the director level," Weis says. "Phases of the project that put stress on business units, and general resource needs are typically handled by the business unit manager. But should that person run into any issues, he or she has the executive sponsor as an advocate."

Will You Be My Sponsor?

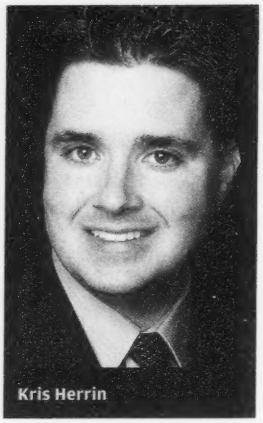
Once an IT executive has identified the perfect sponsor for a project, what's the best strategy for getting that person on board? Begin by seeking a face-to-face meeting, Roeder advises. But if that's not possible, you may have to settle for a phone conversation. Explain the project in terms of its benefits to the sponsor's department or function area — and to him or her personally.

"If you say, 'This will help the company cut costs by 15%,' the response might be, 'Why should I sponsor it instead of the vice president of procurement?' " says Roeder. So be prepared to explain that the sponsor will have the opportunity to influence the whole direction of the project, and that there may be some personal gain. For example, project resources could go under the sponsor's purview, or the sponsor's department could gain new hardware or software.

Even better, find out what metrics are used to evaluate your prospective sponsor. "You need to understand how the other per-

ZACK BLANTON ILLUSTRATIONS

son's performance is being measured," says Kris Herrin, CTO and CIO of Heartland Payment Systems, a Princeton, N.J.-based payment processor that's valued at about $1 billion. "So if someone is heading a call center, its performance is being judged by the company's net promoter score, or whatever the metrics are. Explain how the project will help improve those metrics that the sponsor wakes up worrying about every day." (Net promoter scores are based on customer responses to the question, "How likely would you be to refer this product or business to a colleague or friend?")


Kris Herrin

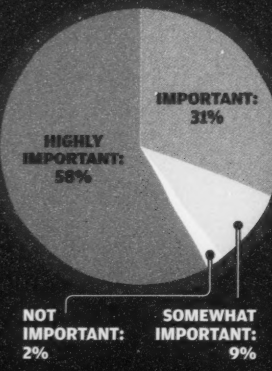
However, be careful not to promise anything your project can't actually deliver. "Instead of saying, 'I believe this will do this for you,' try 'Let's explore this together and see if it will solve your problem,'" Heusner says.

You should already be well known to your prospective sponsor, adds John South, Heartland's chief security officer. "If my first contact with an executive sponsor is when a project comes up, then we've failed," he says. Security carries a lot of weight at Heartland, in no small part because the company suffered a major and very public security breach in 2008, in which more than 100 million credit card numbers may have been compromised.

"My advice is to start relationship-building early, and be engaged with the senior leadership team so you have those close relationships," South says. "You should have already met with these people face to face and had enough conversation with them prior to the project that you feel comfortable with their point of view and focus on business." When you already have a good relationship with a project's executive sponsor, it's that much more likely to succeed, he says. "Whereas, if the engagement starts between two executives at the beginning of a project, you have the whole courtship or learning process starting from that point. You shouldn't be trying to start a project at the same time as you're trying to find out how the other person thinks."

Inspiration Nation

300 IT executives were asked to rate how important it is for a project's executive sponsor to master an understanding of what inspires the project team.



SOURCE: THE STANDISH GROUP'S CHAOS MANIFESTO SURVEY, 2012

Caveat Sponsor

When The Standish Group asked 300 CIOs in its Chaos survey what percentage of the executive sponsors in their companies are good in that role, the responses indicated that only 33% of executive sponsors are considered good. "It's not really their fault," Johnson says. "Most don't get any training at how to do this."

Before the project begins, you can increase your chances of success by providing detailed information as to exactly what help you will need from the sponsor and how much time it will take. "When you approach a prospective executive sponsor, you have to lay out what you think the commitment is," Ladek says. "You need the sponsor to be able to attend meetings regularly — weekly or monthly or however often they are. You need him or her to be available for what I'll call publicity — talking to the rest of the company about the project. Sometimes there's external publicity, too."

Perhaps most important, the sponsor needs to be able to make decisions right away. It's wise to be clear about this, since slow decision-making can hamper progress. "One of the problems we saw in the study was decision latency," Johnson says. "The time between when an issue surfaces and when the decision about it is made can be very long." Even taking a day or two to make decisions can add up to a huge delay if it happens repeatedly, he adds. "It can cause a project to be over deadline, over budget, or even fail."

Bringing executives from other areas to the discussion is another key task for an executive sponsor. "I have seen it when some executive is brought into the discussion late," Heusner says. "The executive sponsor might have brought in 75% of the functions and teams needed. Everyone thought they were doing the right thing, but the project was doomed to failure."

Heusner says he's learned the hard way that it's important to ask up front, "Is there anyone else who needs to review this?" and if the answer is no, he follows up with a second question: "Is there anyone else who might be affected?" He reports that asking the second question has often resulted in other executives being included in updates and decision-making — before it was too late.

Just as important as the sponsor's commitment to reach out to the rest of the company on your behalf is your commitment to do the same within IT on behalf of your executive sponsor. "You have to talk about difficult issues with them and confront them, for instance, if the level of user testing has been light," Weis says. "But that kind of conversation happens privately, not at a meeting. What happens publicly is me as the CIO advocating for their needs. It's my job to understand what matters to them, and to confront my team and ask the tough questions on their behalf." Keep in mind that sponsors from the business side may not know enough about technology to ask the right questions, he notes, so hearing your questions may both educate them and give them confidence to ask questions of their own.

"They know I'm committed to delivering business value and I've got their back," he says. "That's crucial to building trust." ◆

Zetlin *is a technology writer and co-author of* The Geek Gap: Why Business and Technology Professionals Don't Understand Each Other and Why They Need Each Other to Survive. *Contact her at minda@geekgap.com.*

Discussion Underway

(want in?)

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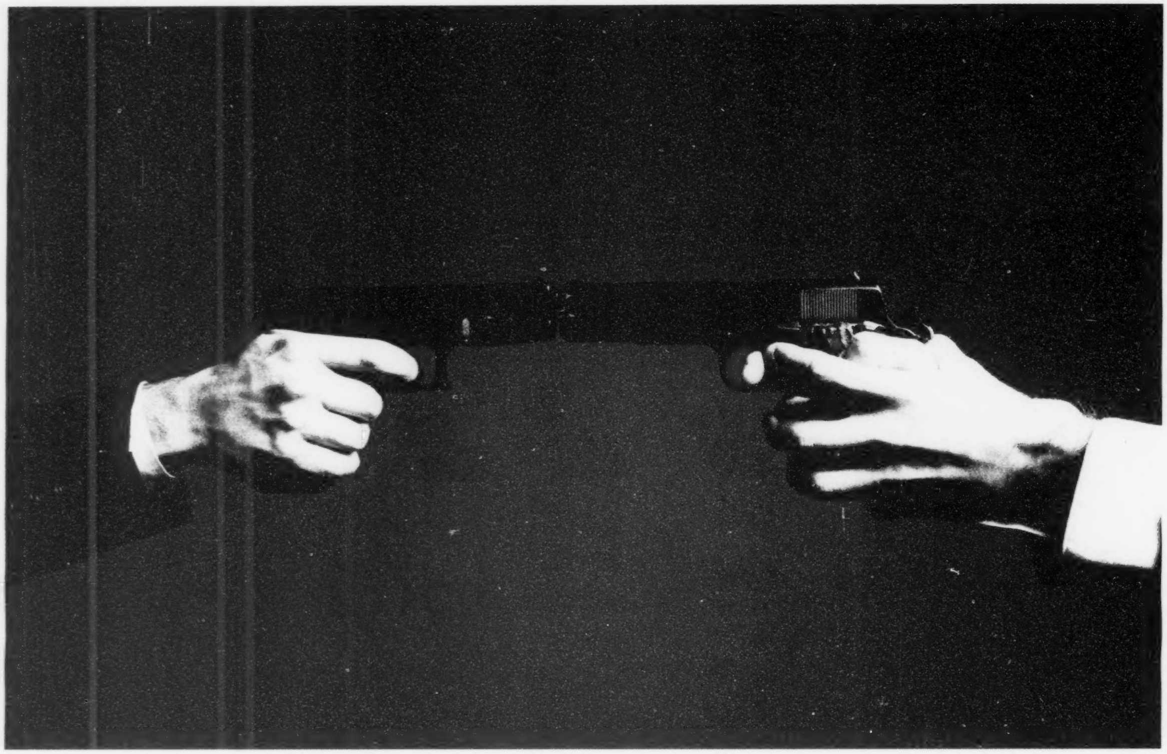


CLOUD SHOWDOWN: IT vs. Legal

Inside the enterprise, the biggest obstacle to cloud computing is often the company's own corporate counsel. Here's how IT is getting to yes with legal. **BY HOWARD BALDWIN**

THE FIRST TIME a client brought intellectual property lawyer Janine Anthony Bowen a cloud computing contract to look over, her reaction was, essentially, "These people must be nuts."

"I read the clause saying the service provider would bear no liability for anything that went wrong with its service, and even if something did go wrong, my client would still be responsible," recounts Bowen, lead partner at Jack Attorneys & Advisors in Atlanta.

To recover any losses, her client would have had to bring suit, and the maximum recovery amount equaled no more than the fees paid for 12 months of service. That amount wouldn't even begin to come close to the value of a data loss. Bowen's assessment of the contract was blunt: "The terms were offensive," she says.

TRINETTE REED / GETTY IMAGES

Tanya Forsheit, with whom Bowen shared the dais at a Practising Law Institute seminar on cloud computing in San Francisco last summer, says she has similar concerns. "The cloud providers try to convey a take-it-or-leave-it attitude for their contracts, expecting people to click through the 'I accept' options the way people click through the iTunes website," says Forsheit, a founding partner of InfoLawGroup who works out of the firm's Manhattan Beach, Calif., office.

Because of the take-it-or-leave-it approach of cloud providers, IT professionals are running into problems with the legal professionals charged with mitigating the risks that their organizations face. That's the case at the Port of San Diego, where Deborah Finley just began thinking about using a small vendor's cloud-based email archiving service.

"We're a medium-size organization without the leverage a larger organization might enjoy. The vendor's contract had a limitation of liability for the cost of the contract, while our legal department has standard language about indemnification," says Finley, the Port's director of business information and technology services. "To change that language, we would need board approval."

After some back and forth, Finley and the Port lawyers reached a compromise, but she's reluctant to go to the board every time she wants to sign a cloud computing contract.

For Finley and many other IT execs, the bottom line is this: Cloud computing is supposed to make things easier and cheaper for IT, but instead, it's turning lawyers and CIOs — two groups with more common ground than they realize — into adversaries, at least temporarily.

> **I'm not asking them for unlimited liability. But if [service providers] want our business, they have to compromise.**
>
> **TANYA FORSHEIT,** PARTNER, INFOLAWGROUP

The lawyers, whose job is to advise the company on legal, risk and compliance issues, want to limit contracts that ignore or gloss over matters related to data loss, privacy, security and e-discovery. CIOs, whose job is to advise the company on technological issues, want to provide computing capabilities to business units as quickly as possible.

As cloud computing becomes more prevalent, the two groups can find themselves at loggerheads — though both are striving to serve the business.

As an IT leader, how can you come to terms with your company's legal counsel? How can the two of you work together to make your company's transition to the cloud fruitful rather than fretful? The process is fairly simple, cloud pioneers say: Ask lots of questions and exercise a healthy dose of due diligence — all of which can lay the groundwork for future teamwork in the cloud.

Why the Cloud Causes Trouble

Cloud computing is a relatively recent development and therefore an area where legal precedents are scarce. "People don't think about the legal issues because this is so new," says Barry Murphy, an analyst at Boston-based eDJ Group, a research firm that focuses on information governance and e-discovery. "There's no prescriptive case law, so there's a lot of trepidation" among lawyers anxious to both protect the company's data and remain on the correct side of government regulation, Murphy explains.

Case law is clear, however, when it comes to e-discovery in the cloud. "The courts say, 'If you're storing information, we expect you to produce it for litigation or compliance,' " says Murphy. "Most companies aren't smart enough to ask a service provider if they've mapped out a chain of custody for data. And a lot CIOs don't know the implications of privacy and transparency laws."

Legal questions about the cloud are becoming an issue now simply because enterprise adoption of cloud computing is growing. The small and midsize companies that pioneered the move to the cloud were less likely to have legal teams waving red flags, industry watchers say. For one thing, they didn't have a lot of leverage when it came to negotiating the terms of contracts with vendors the size of Microsoft, Rackspace and Amazon. Moreover, they may have been more willing to overlook legal and security concerns because they were eager to embrace a new computing paradigm that promised to help them get applications up and running quickly.

Now that larger companies are considering cloud services, corporate lawyers are getting involved — and they're rejecting some of the more egregious clauses of standard service-provider contracts. Forsheit, for example, frequently tells service providers that her clients won't blindly sign away protection. "I'm not asking them for unlimited liability," she says. "But if they want our business, they have to compromise."

Martin Fisher isn't a lawyer. But as director of information security at WellStar HealthSystem, a five-hospital group in Atlanta, he's familiar enough with healthcare regulations such as HIPAA to recognize problems in cloud contracts. Fisher looked at one well-known vendor's cloud-based email system before realizing that, in order to comply with HIPAA, he would have to sign what's known as a "business associate agreement" with any other entity whose data resided on the same system. Fisher killed the deal and went with a remote-hosting arrangement, where WellStar's equipment sits in a third-party data center.

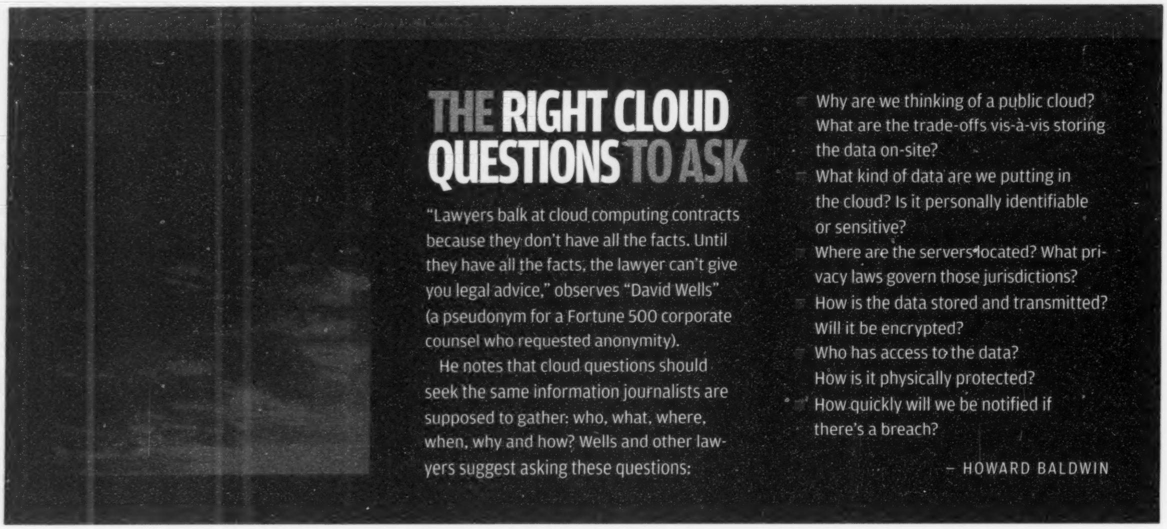
Legal, Your New Best Friends

The CIO and legal counsel must recognize that they're on the same team.

"Both sides have to think of things from the other party's perspective," says Paul Lewkowicz, an intellectual property attorney at Daly Crowley Mofford & Durkee in Canton, Mass. "IT has to think about what happens when everything goes wrong. The lawyers have to remember that IT is there to make the business run. [The lawyers] don't want to say no. They want to know what can make the contract more acceptable."

IT should ask counsel to handle contract negotiations. "Negotiating is an art form, and lawyers are trained to do it," Lewkowicz says. "IT people think of contracts as a couple of pages of specifics and then boilerplate. But it's that boilerplate that saves everybody's bacon when something goes wrong."

While it's important that the CIO and corporate counsel have



THE RIGHT CLOUD QUESTIONS TO ASK

"Lawyers balk at cloud computing contracts because they don't have all the facts. Until they have all the facts, the lawyer can't give you legal advice," observes "David Wells" (a pseudonym for a Fortune 500 corporate counsel who requested anonymity).

He notes that cloud questions should seek the same information journalists are supposed to gather: who, what, where, when, why and how? Wells and other lawyers suggest asking these questions:

- Why are we thinking of a public cloud? What are the trade-offs vis-à-vis storing the data on-site?
- What kind of data are we putting in the cloud? Is it personally identifiable or sensitive?
- Where are the servers located? What privacy laws govern those jurisdictions?
- How is the data stored and transmitted? Will it be encrypted?
- Who has access to the data? How is it physically protected?
- How quickly will we be notified if there's a breach?

– HOWARD BALDWIN

a good relationship, it's even more important that they bring together a team to pore over the agreement and ensure that all issues are covered, says Thomas Trappler, a *Computerworld* columnist who teaches a cloud computing course at the UCLA Extension school. Admittedly, this may seem counterproductive, because one of the benefits of the cloud is to make IT deployments quicker and easier, but it's worth the time, Trappler insists.

After IT and legal work on a few cloud contracts together and get some experience hammering out terms, the process should get easier — in theory.

Trappler says that one of the things he stresses in his classes is the importance of team building — where the team includes the business process owner (the one who needs the cloud service), legal counsel, representatives of IT and people involved in procurement, risk management, vendor management and security. WellStar's Fisher concurs: "When IT and the attorney and someone from compliance all sit down and go through a contract, with give and take about what's best for the organization, you get a lot of goodness out of it."

Industry watchers say it's all a question of due diligence, of knowing what the risks are. There are risks in everything, even in managing data on your own premises. The biggest question is, How do you mitigate the risk? How do you protect yourself as best you can without stifling the business?

"David Wells" (a pseudonym for a Fortune 500 corporate counsel who requested anonymity) agrees that getting subject-matter experts into one room promotes understanding. Each person can address facets of the deal with his own expertise, which helps the group identify which issues are worth worrying about and which aren't. "Otherwise, you can have lawyers spinning scenarios and creating fear, uncertainty and doubt. If you can't get past FUD because people don't understand it, you'll either crater the deal or, worse, do a bad one."

How do CIOs and counsel start collaborating? By asking questions. Ideally, the CIO should know the questions to ask before the attorney even requests the answers, but that doesn't always happen. "That's why I ask the same questions over and over," says Wells. "My people finally know not to come to me without the answers to my questions."

Beyond that, lawyers suggest CIOs ask what clauses in the contract really mean. Wells says that service-level agreements drive him especially crazy. He sees contracts promising restitution for downtime, but the amount of payback is minimal. "If your lawyer's not paying attention, your remedy for downtime is actually pennies on the dollar, and you give up your right to sue for breach of contract by accepting it," he says. "If you have a service provider [whose systems are] chronically down, the lawyer should insist on the right to terminate for breach of contract."

E-discovery is another issue that lawyers tend to focus on more than CIOs do. Murphy notes that there are companies like Nextpoint and X1 Discovery that specialize in discovery in the cloud, but the issue is more complex than it appears at first glance.

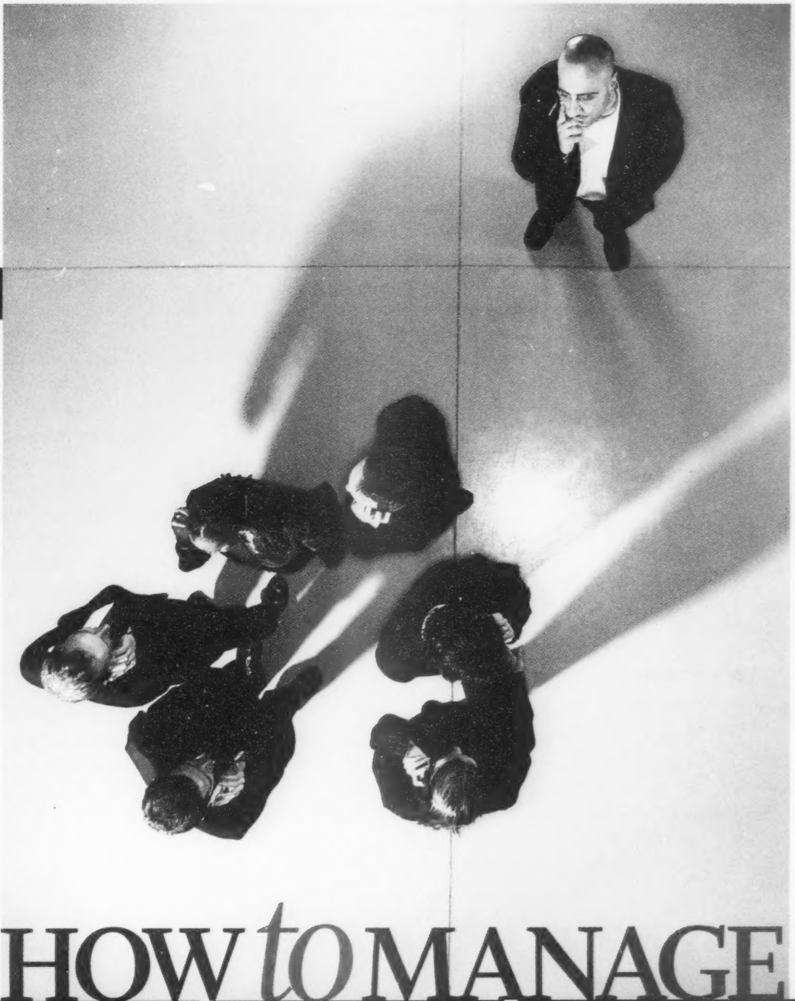
Forsheit agrees. "In the cloud, data is being replicated, so it creates more data for discovery, including metadata," she warns. Federal rules require that you must know where the data is and ensure that e-discovery will find it. "But if there's a server in the cloud that nobody thought about," she says, "people can get sanctioned or jailed, and lawyers can be disbarred."

In the end, legal experts say, getting IT and legal to agree on cloud contracts comes down to a matter of careful communication. "They have to speak each other's languages," Forsheit says. "Counsel needs to understand IT and vice versa. Doing it another way is not an option." ◆

Baldwin *is a frequent contributor to* Computerworld.

> **[Lawyers] don't want to say no. They want to know what can make the contract more acceptable.**
>
> **PAUL LEWKOWICZ,** ATTORNEY, DALY CROWLEY MOFFORD & DURKEE

THINKSTOCK



Hiring contract tech workers is a quick, easy way to staff up a project or offload mundane tasks – but managing them can be ticklish.

BY SERDAR YEGULALP

HOW *to* MANAGE IT Contractors

AS COMPANIES RAMP UP PROJECTS postponed by the recession and attend to delayed maintenance, they're beginning to fill in the IT ranks — with full-time staffers, to be sure, but also with a breed of worker that once lurked at the edges of the organization: the IT contractor.

Proponents say hiring contract IT workers — those engaged on a temporary basis for either in-house or remote work — allows companies large and small to access skills that current staffers don't have, quickly round out project teams without an onerous hiring process, and offload routine tasks to low-cost labor.

CONEYL JAY / GETTY IMAGES

Jack Cullen, president of IT staffing firm Modis, says companies view contract labor as a smart way to find the exact skill set they need for as long as they need it. "Employers are relying on contractors in every aspect of IT," he reports, "from network engineers to Web developers to call center professionals and business analysts."

Indeed, spending in the IT contract labor market revived in mid-2010 and showed a strong uptick in 2011, according to a recent IDC report. While the eurozone crisis slowed that growth in 2012, IDC predicts spending will continue to rise.

As sensible as the use of contract labor can be, it presents IT with a ticklish management challenge: To the untrained eye, contractors may walk, talk and code like the full-timers they often work beside, but they are not, in fact, company employees.

And that makes a difference — or it should — when it comes to how they're managed. Employment experts point out that there are myriad opinions about where the boundaries should be drawn between contractors and employees. But smart IT leaders should spend time finding the balance that works best for their team.

How do you get the most from your IT contractors and do right by them in the process? Here's some advice from IT managers experienced in getting stellar results from a temporary workforce.

When and Why to Use Contractors

At Vanguard Health Systems in Nashville, the use of contractors follows no hard-and-fast rule. "It's situational," says Scott Blanchette, senior vice president and CIO. "We have some [contractors] we acquire because of a specific skill or talent, and there are others we acquire because we simply don't have the labor needed to get critical initiatives done in a timely manner."

WellPoint, an Indianapolis-based healthcare company, also hires contractors to fill a need for specific skills or to quickly staff up in areas it wants to expand into, says Andrew J. Lang, CIO and senior vice president. In such scenarios, hiring contractors may be "a bridging strategy," where people are brought in under contract-to-hire arrangements, he says.

WellPoint also employs a fairly large group of contractors as "variable-demand resources," says Lang, explaining that the size of this group is increased or decreased "based on project work." It also hires contractors to handle day-to-day IT tasks instead of assigning such duties to higher paid employees.

Reed Technology and Information Services, a content-management service provider, uses contractors more sparingly. "We've had enough scale, with the volume that flows through our business, to manage the work with our full-time work population," says Dave Ballai, CIO and vice president of commercial solutions.

For Reed, the minimal use of contractors isn't a technical issue, but one of corporate culture. "Our historical preference has been to in-source — in other words, to identify the skill sets required and hire those on a full-time basis," he says.

That said, Reed does use IT contractors, typically as part of partnerships with vendors. "We run into initiatives that have complex technical requirements, and we will partner with third-party providers who will then staff capabilities with their employee base," Ballai says. "Every organization at some point reaches a threshold beyond which they don't have the competencies in-house."

At Ingram Micro, an IT distribution and logistics company, the decision to bring in contractors is re-evaluated continually, says Bob White, senior director of strategic program management and compliance. "We have to constantly [ask], 'Do we have that skill set [we need] within our environment?' " he says.

Ingram Micro brings in contractors versed in SAP process and configuration skins, large-scale program

5 Things IT Contractors Hate

WHILE THERE MAY BE GOOD REASONS to treat contractors and full-time staffers differently, rest assured that the temporary workers themselves will notice any differences. Here are some common complaints that IT contractors have about the way they're treated by the companies that engage them:

1. **Arriving at a workplace to discover that paperwork hasn't been signed, equipment hasn't been ordered, or email and other necessary accounts haven't been set up.**
2. **Not having the opportunity to take part in onboarding or orientation programs when starting at a company.**
3. **Being denied perks, such as the option to telecommute or work flexible schedules, that are offered to regular full-time employees.**
4. **Not being invited to participate in company social functions.**
5. **Not receiving performance feedback or raises. As one contractor who didn't wish to be named put it, "The only way to know you're doing a good job is if you get your contract renewed."**

– SERDAR YEGULALP

management or new technology like Microsoft Lync or Cisco UCS.

"We typically do this while we build our own internal skill base in a technology area," says White. Such people may eventually be hired as full-timers, "provided we have no contractual terms that preclude us from doing so," he adds. "We have transitioned a number of contractors over the years."

At Pro Publica, a nonprofit investigative news organization, Nick Lanese isn't just the director of IT — he's the entire IT department. The company gives him an assist with contract help, in the form of a single individual with long-term ties to Pro Publica.

"When I started working here, two months after the company was founded, there was an IT contractor already chosen, so I 'inherited' him," Lanese explains. "He is still being used — and happily I might add. He built our initial infrastructure and knows us and our business, so it has worked well."

Part of the Team? Or Solo?

Once IT contractors are brought in, the exact way they're managed is largely a function of corporate culture and less a function of the technology in question, IT leaders say.

At Ingram Micro, White says the approach is to integrate contractors as members of "the Ingram Micro team" — that is, contractors are managed by the specific IT organizations responsible for delivering the services that they help provide.

This isn't just for the sake of being chummy, says White. It's part of a rigorously monitored process to drive value in a business where profit margins are typically small. "We review how [the contractors] are driving efficiencies within our organization," he says. "We're very vigilant about tracking [contractors'] time, for financial reasons and for relationship reasons."

Day to day, there is no divide between full-timers and contractors, who undergo an onboarding process once they're engaged. "For work purposes, we attempt to keep teams together. Our philosophy has always been that consultants are a member of our team and not just hired help to be kept at a distance," says White.

The one exception is that contractors aren't invited to the CIO's quarterly global town hall meetings, which are company-confidential. And, of course, Ingram Micro carefully controls the level of access that contractors have to company data, White says.

At some organizations, particularly in industries such as healthcare, concerns about access trump all others, to the point where contractors are in essence "firewalled" off from the rest of the company.

"We tend to isolate most of our contractors by design," says Vanguard Health's Blanchette. "Being in a regulated industry, security and privacy are going to be paramount in how we approach privilege management for all of our contractors." The few contractors who have access privileges, he notes, are from companies that have established relationships with Vanguard and are considered trustworthy.

Outfitting the Contractors . . . or Not

When it comes to day-to-day hardware and technical support for contractors, corporate culture rather than size again dictates the approach.

Ingram Micro occasionally supplies contractors with hardware, stipulating in the contract the details of how that will be handled. In other cases, the service provider outfits its workers. Under both scenarios, security is always a top concern. "For organizations that bring their own [hardware], we have strict security screenings that have to be done on the PC," White says. "We're very vigilant about our overall security profile as it relates to our company."

> **Our philosophy has always been that consultants are a member of our team** and not just hired help to be kept at a distance.
>
> **BOB WHITE,** INGRAM MICRO

Mike Stalnaker, director of technical operations at Sendme, a mobile game developer, describes his 100-employee company's approach to contractor support this way: "For [long-term] contractors, we provide a system for them that matches our typical engineers' systems. The rationale is, when they leave, we can be assured we retain the data they were working on." On the other hand, consultants who are hired for short-term assignments provide their own equipment, Stalnaker says.

Will SaaS Kill the Tech Contractor?

With continued corporate interest in procuring software as a service, is it possible that we will see a day when IT contractors as we know them disappear?

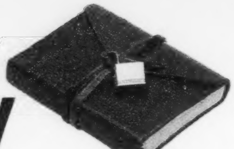
White, Reed's Ballai and Pro Publica's Lanese all say no.

"We use Salesforce in one piece of our business," says Ballai, citing one of the most widely used SaaS offerings on the market. "But in almost all cases, both in the licensing and the use of that technology, most of those instances sit within the walls of our data center."

It seems that the need to have real people on the premises, whether they're staffers or contractors, will never completely go away. One key reason, says Lanese, is perspective. In the workplace, he explains, "more than one point of view is always good" — especially when that view comes from the outside. ◆

Yegulalp *has been writing about computers and information technology for over 15 years for a variety of publications.*

Security Manager's Journal



MATHIAS THURMAN

Tracking Down Rogue IT

The CIO wants to know if rogue IT is a problem. 'Probably,' says our manager. Now he has to find out how bad it is.

SOME CALL IT "shadow IT," but I am among those who call it "rogue IT." Both terms refer to information technology that has made its way into an organization without proper approval.

Rogue IT can crop up very easily these days. Just about anyone with a valid credit card can spin up applications and infrastructure under the radar. If there's no need to integrate with existing infrastructure, no contract review and no requirement for a purchase order generated by accounting, users can arrange to receive software as a service or even infrastructure as a service with no one in IT being the wiser.

Some companies have actually embraced the concept of shadow IT, but as my preference for the more pejorative term "rogue IT" might suggest, I'm among those who see it as a risk.

What my company has embraced is the SaaS model. In fact, SaaS has become our preference, followed by buying software, then building it. But our reliance on SaaS doesn't mean that anything goes. Before any SaaS application is authorized, it must meet a rigorous set of requirements in areas such as security, availability and company viability.

But those requirements don't eliminate the possibility of unauthorized arrangements being made. At a recent business meeting, the CIO asked if we have a rogue IT problem. Much as I hated to, I had to say, "Yes, probably." Having admitted as much, I felt the need to find out the extent of that problem.

Rogue client applications on PCs aren't the problem. We can easily discover them with our configuration management tool. But cloud-based apps typically require no client-side application, except for a Web browser. How do you find those, without spending money on yet another security tool? I turned to our network gear.

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Our Palo Alto firewall and the network sniffers installed at egress points gave us a comprehensive list of all fully qualified domain names of the sites to which employees make connections. We filtered out all the tolerated sites, which left us with a shorter list. Some of these were for known and sanctioned business apps, such as Chrome River, which we use for expense reporting. After some more filtering, we were left with a short list of apps that are being used but never went through the review process.

Trouble Ticket

» **At issue:** Anyone with a credit card can bypass IT and sign up for a SaaS-based tool.

» **Action plan:** Find a way to see who's been doing this.

One of those was for storing presentations by the board of directors. Only a limited number of people would be interested in such an application, and after a few calls, the CEO's administrative assistant told me, "Sure, we've been using that app for almost a year now." She had used her own credit card to sign up for one year of service for $3,000 and then filed an expense report. What's the harm, right? Well, after looking into this app a bit, I found that it uses no encryption, has a poor authentication model and offers no process to remove users once they no longer need access. I don't think we want our board presentations uploaded to such a rickety infrastructure.

We also found that a business group had contracted for the use of a SaaS knowledge base for our customers. Some very sensitive, proprietary information was being stored on that site, which offered no encryption in transit (SSL) or at rest, no proper account management and no redundancy if the site went down. Sadly, our intellectual property was potentially being put at risk of exposure in this way when we already have a very robust knowledge base. Unfortunately, this particular group knew nothing about it and set off on its own to fill its needs.

We found several other rogue IT projects that will have to be dealt with either by sanctioning them or forcing them into an early retirement in favor of more robust corporate solutions.

All in all, not a great week, but I guess it's better to know about all of this stuff than it is to remain blissfully ignorant. ◆

This week's journal is written by a real security manager, **"Mathias Thurman,"** *whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com.*

> **"How do you find cloud-based apps without spending money on yet another security tool?**

ADVERTORIAL

CUSTOMER VIEWPOINT

Jake Harris
DIRECTOR OF IT, AISLE7

Jake Harris is the Director of IT for Aisle7. He has been with the company for 7 years.

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Making a Smart Online Choice

Switching to online productivity software from Microsoft helps Aisle7 lower costs, strengthen communication, and improve mobility.

Founded over 20 years ago, Portland, Ore.-based Aisle7 creates expert health and wellness content that helps pharmacies, grocery stores, and other organizations build stronger relationships with customers. In this Q&A, Jake Harris, the company's director of IT, explains how the challenges of managing an aging onsite email server led him to give Google Apps a try, and why that system's many problems inspired him to use online services from Microsoft instead.

What led Aisle7 to adopt online business tools?
I was a one-person IT department at the time, and our email server was getting old. I just didn't have time to manage it anymore. Letting someone else handle that for us would free me up for more important things.

Was Microsoft the first online solution you tried?
No, we switched to Microsoft after trying Google Apps.

What issues did you experience?
It supposedly integrated with Microsoft Outlook, which our users know well, but everything worked differently. People were really upset about the fairly basic things they couldn't do anymore, like include an attachment in a meeting invitation or attach an old email to a new one. Half the point of buying an online solution was to save me time, but I don't think a week went by in which I wasn't dealing with some issue or another. Often it was every day.

How much support did you receive?
Not much. Officially, they had phone support, but it was pretty weak. I usually just got a voicemail message telling me they would help us only if more than half our users were without email access Even when I got through to a live person they rarely had answers for me. They just didn't seem very interested in supporting the product.

What attracted you to Microsoft?
It came with 25 gigabyte mailboxes and all of Microsoft Exchange's great features, plus integrated security, video conferencing, and more, all for a price lower than what we'd been paying Google and our conferencing provider before. It was sort of a no brainer.

How has Microsoft's online solution benefitted Aisle7?
We're spending less money for better software that helps everyone get more done. That includes me and my staff, by the way. The solution pretty much takes care of itself, and the few times we've had a problem I've gotten excellent help quickly from Microsoft or our Microsoft partner, MessageOps.

How do users like Microsoft's online solution?
They're really happy with it—and with me as well. Everything works the way it's supposed to again, and employee communication is stronger than ever. I can be instant messaging with someone and get a video conference going with a few quick clicks. Then I can share my desktop, so we can collaborate on a presentation or spreadsheet in real time.

Plus, Microsoft's online solution keeps email, calendars, and contacts on multiple devices in sync and lets us access documents almost anywhere we go, so everyone is as productive when they're mobile as when they're at their desk. It's just a really strong suite of tools, and Microsoft adds new features all the time, exactly as a good cloud software vendor should.

OPINION

S.J. VAUGHAN-NICHOLS

OSs Are Leaving the User Out of User Interfaces

The problem is that far too many people have forgotten UI 101: Make it easy.

WE SEEM to have entered an age of computing that I didn't see coming: the age of the terrible user interface. Windows 8 is leading the charge with not one, but two awful interfaces. That's what I think, and so does the lord of all interface analysts, Jakob Nielsen. He said Windows 8 is "weak on tablets, terrible for PCs."

But it's not just Microsoft. GNOME, once the leading Linux desktop, is rapidly fading into the background because of bad design choices in GNOME 3.x. What's going on?

I think the problem is that far too many people have forgotten UI 101 — make it easy — despite the availability of the handy acronym KISS (keep it simple, stupid).

Since back when Microsoft was still calling its brand-new interface Metro, I saw Windows 8 as a disaster in the making. My biggest complaint was with the cartoonish and annoying tiles. Made for touchscreens, they're fairly usable when you're holding a small device at, say, a 45-degree angle. But when the touchscreen is a monitor sitting on a desktop at something closer to 90 degrees? That results in a phenomenon called gorilla arm, a situation blamed for the failure of touchscreens on the desktop as long ago as the 1980s.

Too bad Microsoft hasn't paid attention.

Nielsen notes an even bigger problem — one I should have seen myself. "Two environments on a single device is a prescription for usability problems," he writes. Of course it is. It's bad enough that Microsoft wants Windows users to forget everything they ever learned about using the XP and Windows 7 interfaces, but it now wants them to learn two separate interfaces to do the same old things they used to do with one.

At least I understand *why* Microsoft went wrong. It had this idea of uniting the experience of using smartphones, tablets and PCs. That is clearly what the UI formerly known as Metro was meant to do. True, Microsoft backtracked on that one-interface idea, deciding to include something closer to Windows 7 as an alternative for the desktop. That second-guessing didn't make Windows 8 any better, though, just clunkier.

But why has GNOME fallen off the path of UI sanity? I don't know. One observer wrote about GNOME's mistakes: "I used to be upset when gnome developers decided it was 'too complicated' for the user to remap some mouse buttons. In gnome3, the developers have apparently decided that it's 'too complicated' to actually do real work on your desktop, and have decided to make it really annoying to do."

That observer? Linus Torvalds, creator of Linux.

One GNOME developer who has left the UI behind said, "GNOME has no goals." From the outside, that seems to be true. GNOME's developers seem to think they know better than their users, but those users have fled to desktop environments such as Cinnamon and MATE that are similar to GNOME 2.x.

Is the UI story any better elsewhere? Well, don't get too cocky if you're an Apple fan. Scott Forstall, the man behind the OS X and iOS interfaces, was fired in October, and Jonathan Ive, who had been in charge of hardware design and has a very different aesthetic, is now in charge of all Apple interfaces. Might Ive make similar missteps?

I'd like to think he won't, but when you consider how badly others have done with UI decisions lately, you really have to wonder if even the experts can avoid making simple UI blunders. ◆

Steven J. Vaughan-Nichols has been writing about technology and the business of technology since CP/M-80 was cutting-edge and 300bps was a fast Internet connection – and we liked it! He can be reached at sjvn@vna1.com.

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Career Watch

Q&A

Chad Lilly

The director of recruiting at Lextech Global Services discusses ways to **spot truly exceptional developers** *during interviews.*

Presented with two developers who look equally good on paper, how can a hiring manager go about choosing between them? It is always hard to choose between great developers, especially when looking at them on paper. The true test is how a developer will work in *your* environment. You have to have both candidates meet the team and see them in your environment. The team has the best feel for what traits work well within its own group, and those traits are not going to show up on paper. Paper shows the tools and gives some insight via past projects. But it does not always demonstrate the process or the efficiencies employed in completing projects.

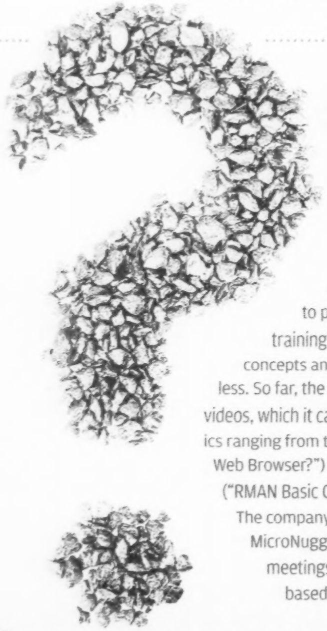
What other ways do you suggest to test skills that don't necessarily appear on a résumé? There are many ways to put candidates in situations that may simulate real project scenarios. Taking a candidate out to lunch with members of the team to evaluate how the candidate and the team members interact is one way. You can also ask candidates to tell you about their hobbies or interests outside of the position you are interviewing for. That helps you understand a bit more about the candidates as people, of course, but it will also give you an idea about how well they are able to explain concepts they know a great deal about. Are they able to explain things succinctly and clearly, or do they end up somewhere far outside of the audience's comprehension without even realizing it?

What would you say to a hiring manager who says he would rather go with his gut because, though all of this sounds great, it's too time-consuming? Going with your gut is great – if your gut is right more than 90% of the time and if your team has no problem with that approach. The larger the team, the more you have to bring others into the hiring process.

Think about this: Would you deliver software to your customer without testing it? You know that the more thorough the testing is, the better the chance of success for your project. Well, that's true whether your project is delivering great functionality to your customers or hiring a new member for your team. There has to be a balance between your gut and other tests, because great candidates don't stay on the market long.

And one more thing: Yes, it's more time-consuming to go through the steps that will help you find the right hire, but doing so up front is more efficient than hiring a few poor fits and starting the process all over again.

– JAMIE ECKLE



NUGGETS OF INFORMATION

Need to know about Server Manager in Windows Server 2012, fast? For the basics, you can go to CBT Nuggets' YouTube channel. CBT Nuggets, which specializes in online certification training, is using the channel to present videos, featuring experienced training professionals, that explain IT concepts and features in five minutes or less. So far, the channel has about 50 such videos, which it calls MicroNuggets, on topics ranging from the elementary ("What Is a Web Browser?") to much more esoteric fare ("RMAN Basic Configuration in Oracle 11g"). The company says the topics featured in the MicroNuggets are useful in job interviews and meetings with management and were chosen based on search data and user demand.

A BIG NUMBER

49%

Percentage of companies that say they plan to hire security specialists over the next 12 months.

AN EVEN BIGGER NUMBER

84%

Percentage of companies that say they have gotten a positive return on investment from certifying security staffers.

SOURCE: COMPTIA'S 10TH ANNUAL INFORMATION SECURITY TRENDS SURVEY OF 876 U.S. BUSINESS AND IT EXECUTIVES, OCTOBER 2012

Interested candidates send resume to: Google Inc., PO Box 26184 San Francisco, CA 94126 attn: Lisa Harrington. Please reference job # below:

Staff Software Engineer (Mountain View, CA) **#1615.1448**; Design, develop, modify, and/or test software needed for various internet search engine company projects. Exp incl: design & dvlpmnt of dashboard appl; design & arch of web appl & web browsers; design, dvlpmnt & perf analysis of large scale distrib sw; dvlpmnt of data process pipelines; backend servers; & data stor syst.

Associate Product Manager (Mountain View, CA) **#1615.1693**; Take responsibility for Google product from conception to launch. Exp incl: sw dvlpmnt; oper syst, device drivers, storage, ntwrkng &/or embed tech; & proj mgmnt; up to 15 % trvl req'd.

SW Eng Positions (Mountain View, CA): Design, develop, modify, and/or test sw needed for various Google projects. Exp. incl:

#1615.2155; C, C++ &/or Java; oo concepts, data struct, algorithms, perf analysis, & sw design; Jscript &/or AJAX; large-scale distrib syst design & dvlpmnt; & Unix &/or Linux.

#1615.873; prog & debug in Java; large syst sw design & dvlpmnt; Unix &/or Linux; data struct; algorithms; sw design; web-based svcs internationalization & localization; design, implement, integrate, deploy, operate, maintain & diagnose syst issues across large distrib web-based svcs.

#1615.1585; distrib syst & algorithm design; databases; security; Java, GWT, CSS, Jscript, MySQL, Hibernate, Protocol buffers, Git, & Eclipse.

#1615.4062; ntwrk syst; standard IP ntwrk protocols; C++ & C; POSIX shell script; Python; Linux syst program; & Embedded Linux Syst.

#1615.2433; large scale data process; parallel & distrib classification; clustering; regression & data mine techniques; dvlpmnt of algorithms; frontend dvlpmnt, incl client-side data collection w/ Jscript; & backend dvlpmnt, incl data collection & analysis pipelines in C++, Java & Python.

#1615.1850; C & C++; Python; SQL; large scale syst design; & mach learn.

#1615.2155; C, C++ &/or Java; oo concepts, data struct, algorithms, perf analysis, & sw design; Jscript &/or AJAX; large-scale distrib syst design & dvlpmnt; & Unix &/or Linux.

#1615.2959; Java, C++ & shell script; WIFI ntwrk, GPS & AGPS; inertial sensors & inertial navigation syst; large scale data process syst using MapReduce; dvlpmnt of ntwrk location algorithms & mach learn algorithms; large scale distrib web srving syst; distrib data syst; Android appl; & debug power-efficient Android svcs.

#1615.410; online payment space; proj plan & prioritization; agile dvlpmnt process; public API design & maintain; large scale distrib & multi-thread syst; secure handling of user sensitive data; credit card compliance rules; open source dvlpmnt practices & dvlpr community interaction; mobile pltfrm dvlpmnt; web & info security; web dvlpmnt & browser tech & tools; Java background & oo design; automated test frmwrks & cont integrate tools; & prod svc launches.

#1615.3809; large scale data analysis; mach learn; data mine; distrib databases; C++, Jscript, Python, Java, MapReduce & unitesting; & web UI dvlpmnt.

#1615.614; algorithm design; database design; Java, J2EE, Spring, Hibernate, Python, Jscript, AJAX, C++, C#, SQL & Perl; TCP/IP & ntwrk prog; HTML, CSS, & HTTP; ETL; Linux & Windows.

#1615.2514; ntwrkng, caching, monitor, & syst tune of large scale data syst; perf parallel compute; index & search infrastruct; & dvlp, bldg,& debug environ.

#1615.633; design & implement distrib storage syst; distrib protocols & arch; distrib fault tolerance concepts; prob & perf analysis of large scale distrib syst; Java; C&/or C++; & multi-thread.

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Test Engineer (NY, NY) **#1615.3911**; Design, develop, modify, and/or test software needed for various Google projects. Exp incl: white box test; Selenium; JMeter; soapUI; Java, IDE, HTML, CSS, Jscript, SQL & XML; & oo sw.

SW Eng Position (NY, NY): Design, develop, modify, and/or test sw needed for various Google projects. Exp. incl:

#1615.2576; Write code, design, test & debug appl; design patterns, scalable multi-tiered & distrib syst, API design & dvlpmnt; oo lang, incl Java, C++ & Python; & write design reviews & implement solutions.

#1615.2338 C++; Python; Java; SQL; parallel & distrib syst; game theory & mechanism design; HTTP; TCP/IP; large-scale syst design; & stats & data analysis.

Interested candidates send resume to: Google Inc., PO Box 26184 San Francisco, CA 94126 attn: Lisa Harrington. Please reference job # below:

Technical Solutions Engineer (San Francisco, CA) **#1615.773**; Integrate Google products with customer technologies. Exp incl: Java, C++,& Python; Jscript; large scale distrib syst; sw eng'g patterns; relational & non-relational databases; & integration & load tests.

Software Engineer Position (San Francisco, CA): Design, develop, modify, and/or test sw needed for various Google projects. Exp. Incl.:

#1615.1717; analysis & dvlpmnt of sw appl; database admin; ntwrk admin; troubleshoot large syst in production; maint of large sw syst; investigate prob & debug sw; modify sw syst to accommodate feature requests; hw & sw integration; multithread; distrib syst; Jscript; stat models & stat analysis; simulation & stress test of large prod syst; test syst; C++; UNIX; & algorithm dvlpmnt & implement.

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Senior Technology Architect(s) (Cloud) - US needed to provide architectural solutions for one or more projects. Provide input to create technology and architectural frameworks. Understand and analyze client business & IT problems, technology landscapes, IT standards, and enterprise roadmaps. (Ref # Inf_EXTERNAL_58506247_4).

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Senior Technology Architect(s) (Enterprise Security) - US needed to provide architectural solutions for one or more projects. Provide input to create technology and architectural frameworks. Understand and analyze client business & IT problems, technology landscapes, IT standards, and enterprise roadmaps. (Ref # Inf_EXTERNAL_58506332_4).

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Senior Technology Architect(s) (SOA & EAI) - US to provide architectural solutions for one or more projects. Provide input to create technology and architectural frameworks. Understand and analyze client business & IT problems, technology landscape, IT standards, and enterprise roadmaps. (Ref # Inf_EXTERNAL_58506336_4).

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Test Engineer (Mountain View, CA) **#1615.563**; Design, develop, modify, and/or test software needed for various Google projects. Exp incl: dvlpmnt &/or test automation; analysis & decomposition of complex sw syst; test harnesses & infrastructure; C++, Java, & Jscript;& debug issues ID of root causes.

Business Systems Integrator (Mountain View, CA) **#1615.940**; Design analytical solutions that provide data to answer complex business decisions. Exp incl: Java; SQL; Unix; dvlpmnt of large-volume, diverse appl; & info mgmnt, data model, & syst integration.

Network Engineer (Mountain View, CA) **#1615.684**; Identify issues for Google's networks and determine appropriate solutions. Exp incl: ntwrk op 24x7 support environ; analysis of logs & collected data; troubleshoot & handling escalations; & protocol families.

SW Eng Positions (Mountain View, CA): Design, develop, modify, and/or test sw needed for various Google projects. Exp. incl:

#1615.1909; C++ & Java program; large syst sw design & dvlpmnt; distrib syst & distrib program; sw design of large-scale geospatial & search syst; data struct; & algorithms.

#1615.3185; C++; oo program; info retrieval; compilers; database syst; probabilistic data models; adv data struct & algorithms; bldg & deployment of large-scale distrib syst; & internals of oper syst.

#1615.572; C, C++, or Java; oo tech; algorithm dvlpmnt & implement; large scale distrib syst; data storage & analysis; QA & test; techn presentations; & proj mgmnt.

#1615.4799; perf analysis & optimize; GCC internal data struct & work flow; comp arch; troubleshoot large product syst; compiler design & implement; X86 micro-arch features & optimize technique; C++ & C; dwarf format & implement; & Linux kernel & profiling module.

#1615.1119; C &/or C++, WebKit, sw design, algorithms & data struct, perf profiling, & parallel syst.

#1615.1261; AI; data analysis; discrete math; computational complexity; algorithms & data struct; databases; C++ & Java.

#1615.3700; C &/or C++; large proj syst design & large-scale data process; low level debug; design of algorithms for storage & index of large vol of data; & create project plans & schedules.

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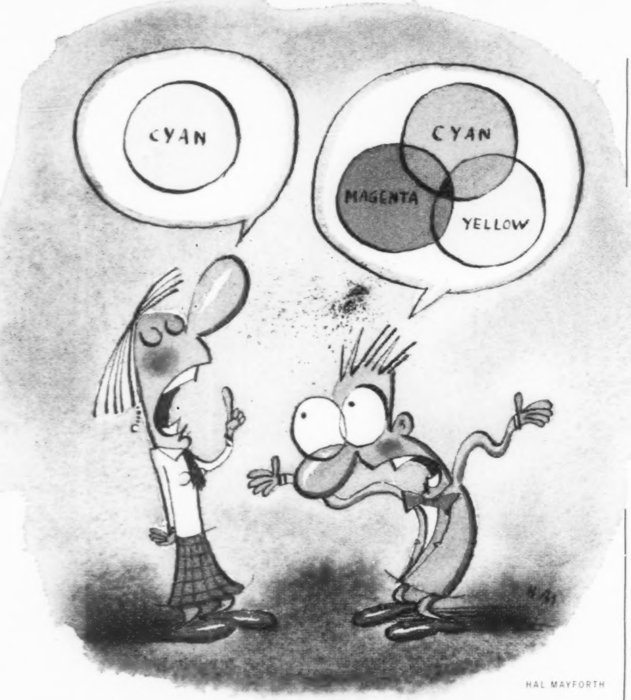

HAL MAYFORTH

Just Tell Me What Color Cyanide Is

IT support gets a call about a large color printer. "A user said that after troubleshooting the issue, she believed a sensor was out," reports this pilot fish in the loop. "The user said the printer called for cyan to be replaced. She pulled the yellow cartridge from the printer and replaced it. It still said the toner was low." The tech quietly opens the printer and replaces the cyan cartridge. Now the printer's LCD readout shows that everything is OK, and a test print comes out fine. User asks, "Why did you replace the blue toner when cyan was out?" Tech explains that cyan *is* blue. User says that's incorrect – cyan is yellow. Tech shows her the box that the cartridge came in, pointing out that it is labeled "cyan" and that the colored bar on the box is blue. He also notes that on the LCD display, it had been the blue bar indicator that was low. Reports fish, "She looked at him like he was from Mars and said, 'I'm pretty sure cyan is yellow.' "

Name Game

It's the yearly open enrollment period for healthcare benefits at the government agency where this pilot fish works, and this year employees can finally make changes online. "I go to the website, and it asks for first name, last name and the code from the letter that the healthcare provider sent me," says fish. "My name is in the form *First M.I. Last Jr.*, so I enter *First* and *Last* in the appropriate boxes, but the system fails to verify me. I double-check everything and try again. Nope. I try again using *Last Jr.* as the last name, since I have run into problems before with systems that don't properly support suffixes. That doesn't work either. At last, I remember that I have an online account with this provider, so I log in and see that they say my first name is *First M.I.* and my last name is *Last Jr.* At least I got close . . ."

Our BYOD Future

Support pilot fish gets an email early one morning from one of the company's high-level managers: "Is something wrong with our phone line?" In response, fish says no, he doesn't think so and asks, "Is your phone not working?" After sending the response, "I waited a few minutes for a reply, then decided to go up to her office to see what the problem was," fish reports. "I noticed her on her phone, so I assumed everything was OK. A couple of hours later, I got another email from her: 'I'm pretty sure something is wrong with our phone line. Can you check it out?' I immediately called her office and asked her what the issue was. She said, 'Nothing happens when I call someone on my cellphone. Our phone line must be down.' "

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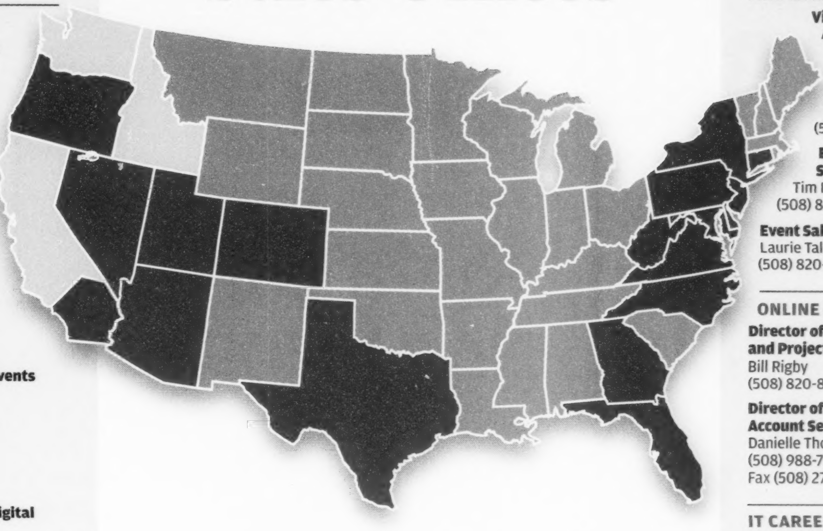

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— OPINION

PAUL GLEN

Being Right vs. Not Being Wrong

To a lot of people, it seems as if we geeks always have to be right.

WE GEEKS HAVE A REPUTATION that we neither want nor entirely deserve. To a lot of people, it seems as if we always have to be right — to prove that, no matter the circumstance, we know best.

I believe that's a false impression, but it's easy to see how it came to be. Some of the most common complaints about technical people are that they interrupt with condescending corrections, become impatient when they have to explain things, qualify every statement so that it is precisely correct and dismiss unsupported opinions as invalid. If you aren't steeped in the psychology of geeks, those behaviors can sure support the idea that geeks just always have to be right. Even discussions among geeks look like knock-down, drag-out fights. From the outside, we can seem like a bunch of egotistical blowhards trying to one-up one another at a meeting of the Always-Need-to-Be-Right Club.

The thing is, though, that most geeks would read that description and say, "I hate those kinds of people. There's no way geeks are like that." And my experience has been that the vast majority of geeks absolutely are not. But we sure look that way.

Why, then, do we give such a false impression? My thinking is that geeks are horrified by the thought of being wrong. That might seem like an excessive attachment to being right, but those are actually two very different mindsets.

Geeks revere truth and loathe lies, mistakes and partial truths. Our conversations are usually collaborative attempts to find, reveal and articulate objectively verifiable reality. We can't allow mistakes or partial truths to be left unchallenged. We passionately pursue dispassionate objectivity. Unfortunately, our commitment to truth is hard to distinguish from an egotistical need to be right. But there is one important behavioral clue that demonstrates our much more noble intentions: It is rare for a geek to continue to argue for an idea that has crumbled in the face of hard truth. We will explore our own ideas until they are proved wrong or confronted with superior logic or elegance. In the end, we are committed to being on the side of right, not to being right.

If you want to minimize the chances that you acquire the reputation for having to be right, here are a few phrases that might help. (You probably rarely hear them around the office.)

■ 'You're right, and ...'

Most geeks aren't in the habit of explicitly acknowledging that they've heard things they agree with. Instead, they latch onto the points of agreement and refine, clarify or qualify them, leaving the impression that they need to be right.

■ 'Let me make sure I understand.'

Before launching into a well-reasoned refutation of someone's statement, make sure that you really know what is meant. There's nothing more annoying than listening to someone launch a long-winded attack on something you never said.

■ 'I really like your idea.'

This may be the most important phrase of all. It lets people know that you personally value their insights and contributions.

Given how much we geeks hate it when people egotistically promote bad ideas, we really should invest a bit in separating ourselves from such behavior — even if it's just the impression of that behavior. We might even improve our relationships and make our jobs easier in the process. ◆

Paul Glen, CEO of Leading Geeks, is devoted to clarifying the murky world of human emotion for people who gravitate toward concrete thinking. His newest book is *8 Steps to Restoring Client Trust: A Professional's Guide to Managing Client Conflict*. You can contact him at info@leadinggeeks.com.

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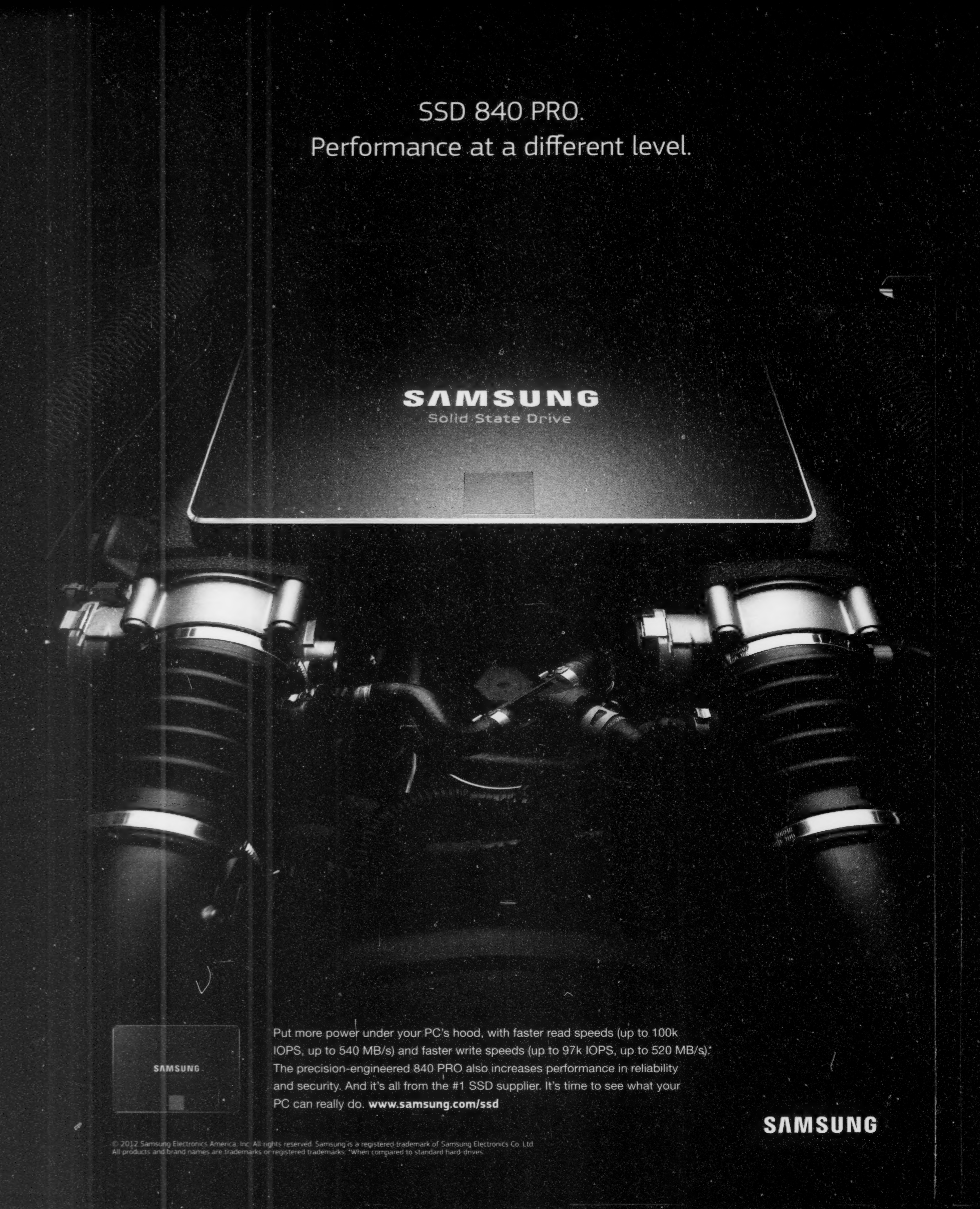
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